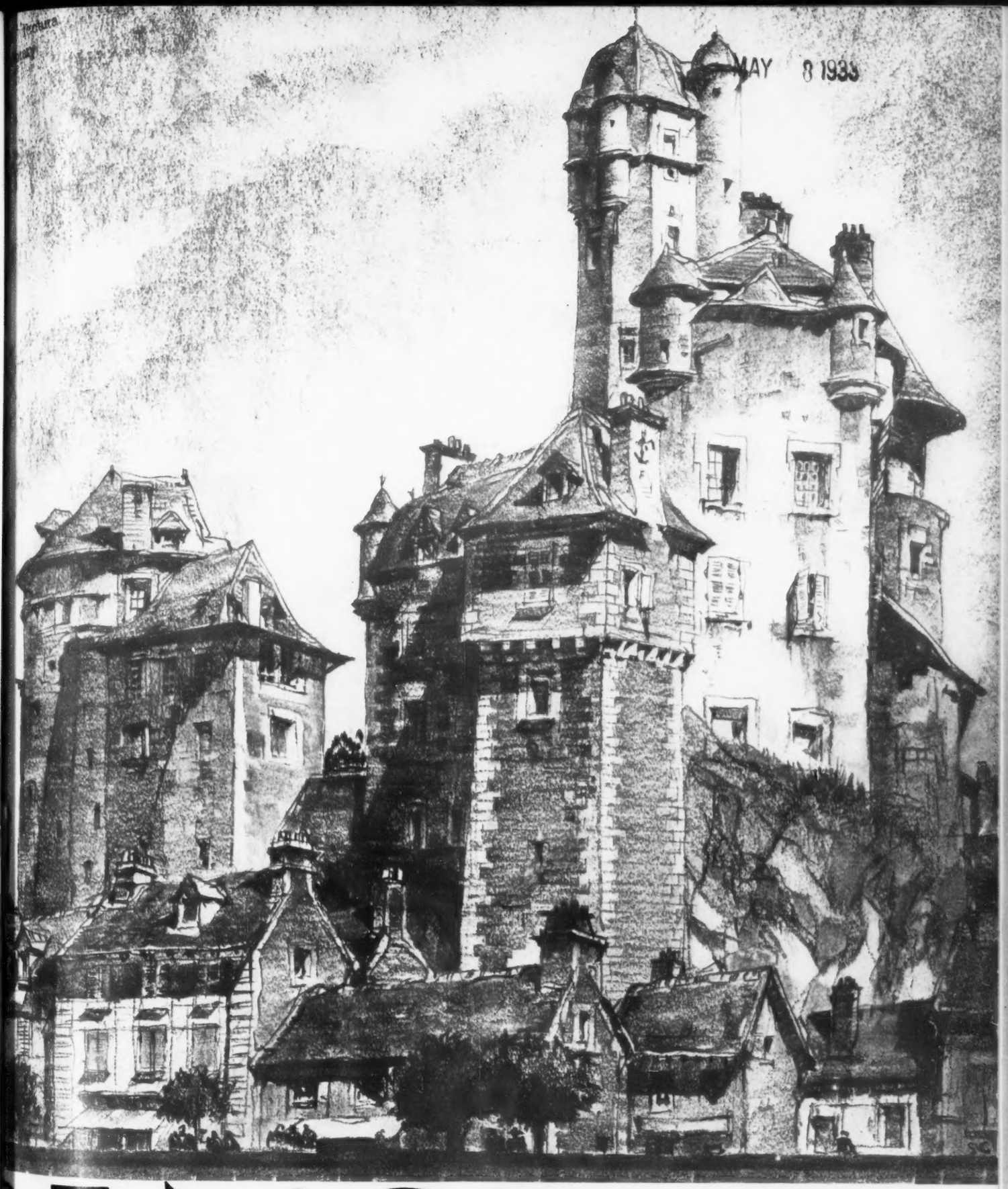
MAY 8 1933



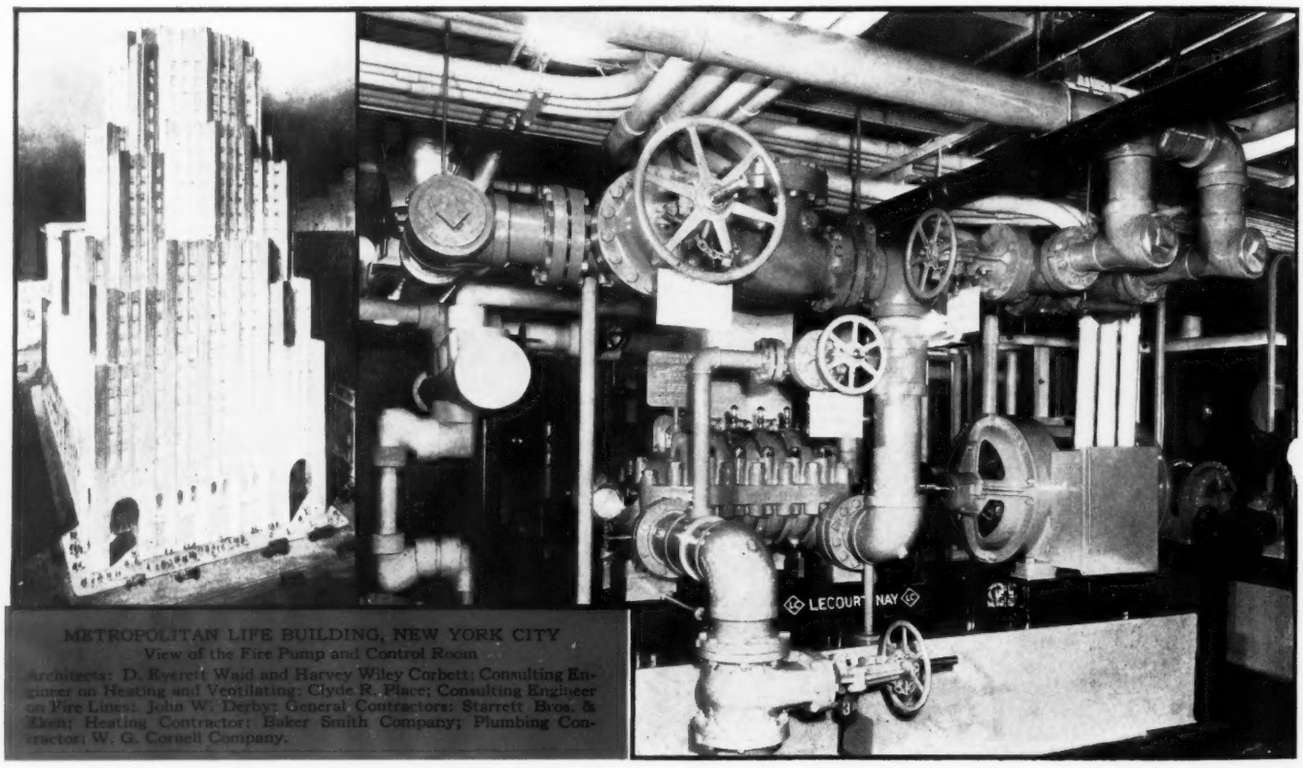
PENCIL POINTS

MAY
1933

AN ILLUSTRATED JOURNAL for the DRAFTING ROOM

J&L PIPE

THE WORLD'S MOST POWERFUL FIRE PUMP SERVES FIRE LINES OF J&L SEAMLESS STEEL PIPE



METROPOLITAN LIFE BUILDING, NEW YORK CITY
View of the Fire Pump and Control Room
Architects: D. Everett Waid and Harvey Wiley Corbett; Consulting Engineer on Heating and Ventilating: Clyde R. Place; Consulting Engineer on Fire Lines: John W. Derby; General Contractors: Starrett Bros. & Eken; Heating Contractor: Baker Smith Company; Plumbing Contractor: W. G. Cornell Company.

In the Metropolitan Life Building the most powerful fire pump in the world stands by. At any hour—today and thousands of days to come—it is ready to deliver 750 gallons of water per minute at a pressure of 600 pounds per square inch. Such a pressure and the emergency nature of the service require fire pipe lines of dependable strength and efficiency. J & L Seamless Steel Pipe has been entrusted with this responsibility.

In addition to the use of J & L Seamless for the fire lines, all steel pipe utilized in the heating installation throughout this great building is J & L buttwelded and lapwelded pipe.

J & L CONSTRUCTION PRODUCTS
LIGHT WEIGHT ROLLED CHANNELS
JUNIOR BEAMS — STEEL PIPE
BARS for CONCRETE REINFORCEMENT
STANDARD STRUCTURAL SHAPES
STEEL PILING — NAILS — TIE WIRE
FABRICATED STRUCTURAL WORK
including Steel Plate Construction

J&L STEEL

JONES & LAUGHLIN STEEL CORPORATION
AMERICAN IRON AND STEEL WORKS
JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA
Sales Offices: Atlanta Boston Buffalo Chicago Cincinnati Cleveland Dallas Denver Detroit Erie Los Angeles Memphis Milwaukee Minneapolis New Orleans New York Philadelphia Pittsburgh St. Louis San Francisco
Warehouses: CHICAGO CINCINNATI DETROIT MEMPHIS NEW ORLEANS PITTSBURGH
Canadian Representatives: JONES & LAUGHLIN STEEL PRODUCTS COMPANY, Pittsburgh, Pa., U. S. A., and Toronto, Ont., Canada

Pencil Points, published monthly by The Pencil Points Press, Inc., at 258 Atlantic St., Stamford, Conn. Publication office, Stamford, Conn. Editorial and Advertising Offices 330 West 42nd Street, New York, N. Y. Yearly subscription $3.00, single copies 35 cents. Entered as second class matter, March 10, 1930, at the Post Office, Stamford, Conn., under the Act of March 3, 1879. Volume XIV, No. 5. Dated May, 1933

The Public Works Program Comes Nearer to Actuality

As we write, the Public Works program of the Roosevelt administration is about ready to be put before Congress. We cannot say, therefore, how extensive it will be and of what it will consist. Our hope is that it will be big enough and far reaching enough to counterbalance the deflationary moves already made and that it will, by putting large amounts of money in direct circulation, serve to stimulate a business revival.

The National Committee for Trade Recovery, sponsored by the Construction League of the United States, presented to the Administration, at the beginning of April, a detailed list of projects in all parts of the country upon which work could be started within from three to nine months. This list is reported to include more than thirty-four hundred projects amounting in the aggregate to over $2,800,000,000. The bulk of these projects were, naturally, engineering in nature, but among them were said to be over $100,000,000 worth of housing and slum clearance items. In addition to this there were over a thousand projects for hospitals, prisons, asylums, armories, other institutional buildings, municipal enterprises such as parks, pools, incinerators, airports, gas and electric plants, schools and libraries, which would require the expenditure of well over $500,000,000. There is thus a substantial total of items in which architects are directly interested, though of course it will be realized that the preliminary work at least has been done.

This list, which was gathered together through the cooperation of the American Society of Civil Engineers, the American Institute of Architects, the American Water Works Association, the McGraw-Hill Publishing Company, the F. W. Dodge Corporation, and the 47 State Chairmen of the Trade Recovery Committee, was prepared at the request of the administration. It therefore seems reasonable to suppose that the program to be adopted will be based in large part on these projects which represent works "needful and in the public interest" and for which the preliminary design has been done so that they can go ahead quickly. And time is an important factor if the purposes of the proposed program are to be accomplished—i.e., to put large numbers of men at work on construction while the weather conditions are right.

Adoption of the entire list would, it is estimated, serve to put 1,000,000 men directly at work for one year or 500,000 men for two years. Furthermore, it would involve 1,000,000 more man-years in the production and transportation of the necessary materials and equipment as well as an indeterminate but large number in industries that would be stimulated by the greatly increased purchasing power of those directly employed.

Opposition is still heard from some quarters to the spending of so much money by the government. "We are already overburdened with taxes," say the objectors, "and all these things will have to be paid for." The answer to this is that large scale spending is vitally necessary to the business revival we all want; that large scale private spending for capital goods requires the incentive of profit to bring it about, profit which will not be in sight until we are again making full use of the capital goods already in existence; that large scale spending for consumers' goods cannot take place until the masses of the people have money to spend for them; that the government is the only agency we have that combines central authority and leadership with sufficient credit to carry on or stimulate a spending operation large enough to be effective; that the government can spend now and collect tomorrow when prosperity is again restored and the burden of taxes will not be so onerous. Incidentally, there is a growing feeling among economists that the necessary taxation should be so applied that it will draw mostly from the high bracket incomes and act as a preventive of overinvestment in productive capacity which is not needed and which leads to excessive bankruptcy. If this policy were followed, not only would the burden of paying for public works not fall too heavily on the small and moderate income classes to which the bulk of our population belongs but a brake would be applied to the forces that tend to bring about over-expansion of industry and business and, eventually, depression.

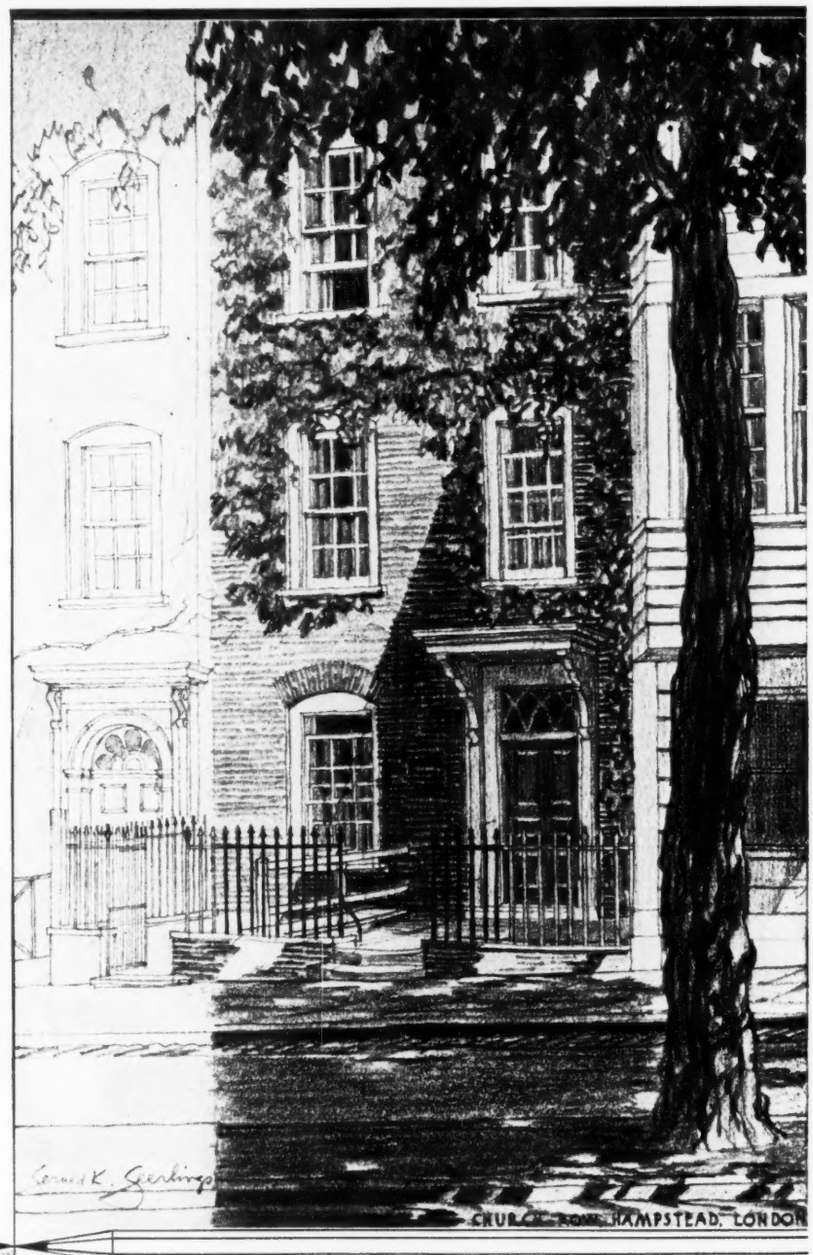
If a vigorous public works policy is adopted—and we have every belief that it will be—the primary effect will be to put large numbers of men back to work, restore their earning power, and give them money to spend on consumers' goods. Other businesses will be stimulated and more of the unemployed will be called back to work. The uphill part of the cycle will have begun and the movement will accumulate strength as it goes. Depending on how rapidly it proceeds, the demand for architectural services on private projects will develop. This may come slowly at first but it will be positive and gives us hope that the building industry will eventually get back on its feet. It is on this prospect that we base our advocacy of the Public Works program and our faith in the future of the architectural profession.

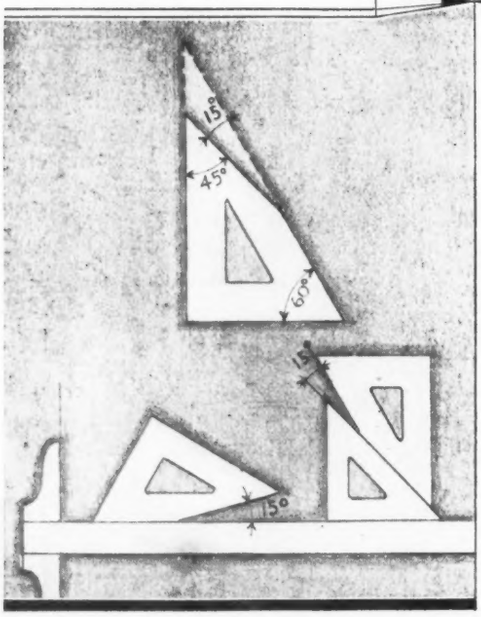
IVY-CLAD BRICK, WHITE SASH, GREEN DOORS, FOREGROUND TREE AND SHADOWS

GERALD K. GEERLINGS left this drawing incomplete — why don't you finish it? He made the original, exactly this size, entirely with a 3B Microtomic Van Dyke Pencil. On the very smooth surface of this paper, you will find a 5B or 6B best. Mr. Geerlings says:

"When we use T-square and triangle, the resultant drawing usually looks convincing. But on outdoor sketching and indoor perspectives we are apt to flounder uncertainly. A method which serves as a sound starting point consists in first doing a straightforward, accurate line drawing, then applying flat tones, and finally, adding such texture details as may be beneficial. The modern tendency favors clear-cut draftsmanship and shuns woolly indecision. If you seek freedom in drawing, follow Whistler's precedent of learning first how to record facts deliberately."

FREE SAMPLES of any two degrees of the Microtomic Van Dyke Pencil are yours for the asking. Write to the Eberhard Faber Pencil Co., Dept. PP 5-33, 37 Greenpoint Ave., Brooklyn, N. Y.





MEET THE FOUR-SIDED TRIANGLE

"An unnatural phenomenon, perhaps, but a drafting suggestion worth passing on. Until you try it, you have no idea how useful a triangle can be, which serves both as a 45° and a 30°-60°. Cut off the acute end of a 12-inch 30°-60° triangle, so that it becomes a 45°, as shown left. The long leg of the triangle is still 9 inches and will serve as well as before. This four-sided 'triangle' will make 15° with the T-square; in combination with another angle, and with a little practice, it will become increasingly useful."

—Gerald K. Geerlings.

MICROTOMIC
VAN DYKE
EBERHARD FABER

Made by the new Eberhard Faber chemical process in 18 consistently accurate degrees---7B softest to 9H hardest.

Russell F. Whitehead
Editor
Kenneth Reid
Managing Editor
E. L. Cleaver
Associate Editor

May + PENCIL POINTS + 1933

Cover Design
"Chateau D'Estaing"
by Samuel Chamberlain

Vol. XIV — *Something for Everyone in the Architectural Profession* — No. 5

ARTICLES

Building Economics — Architectural *Weeds* Versus *Needs* . *Ernest J. Russell* 199
Editorial — Facts Found Now Will Bear Fruit Later 200
Craftsmanship — Wrought Metalwork, 1 . . . *Bernard Heatherley* 203
Murals for Business Diversion . . *Sylvia Starr Wertz* 227
Practical Design — More On Stairs . . . . . *Frederick E. Markus* 210
Office Management — Figures and Finance . . . . . *Robert Lee Henry* 215
Building Codes — A Thought on Building Codes . . *J. J. Del Bourgo* 221
Competition Drawings — Le Brun Scholarship . . . . . *Jury Report* 231
Specification Writing — Unusual Specifications . . . . *David B. Emerson* 240

COMPARATIVE DETAILS—Group 8

Construction and Design — INTERIOR WOODWORK 217

The work of Roger H. Bullard, Evans, Moore & Woodbridge, Howard & Frenaye, Hyde & Shepherd, Walter Bradnee Kirby, Merrill, Humble & Taylor.

PLATES

Drafting Technique and Design
WATER COLOR RENDERING . . *Stanley W. E. Green* 198
CHARCOAL DRAWING—Hospital . . *E. P. Chrystie* 201
CONTE CRAYON STUDY FOR ETCHING *A. T. Tornrose* 202
SMALL HOUSE DESIGN . . . . *Royal Barry Wills* 207
HOUSE DESIGN . . . *Derby, Barnes, & Champney* 208
CHARCOAL DRAWING—City Hall . . *E. P. Chrystie* 209
DRYPOINT—Senlis . . . . . *Samuel Chamberlain* 211
DRYPOINT—"Les Arbres" . . *Samuel Chamberlain* 212
PENCIL RENDERING—House . . . . *John Welker* 213
CRAYON DRAWING—St. Malo . . . *John Petrina* 214
BLACKLETTER DESIGN . . *Oliver Whitwell Wilson* 216
EARTHQUAKE DETAILS . . . . *John G. Fleming* 223
SMOOCH RENDERING—Post Office . . . *J. J. Fish* 224
GARDEN GATES—Details . . . . *Pitkin & Mott* 225
GARDEN GATES—Details . . . . *Pitkin & Mott* 226
CHARCOAL RENDERING—Building Entrance *J. B. Wertz* 230

DATA SHEETS—*Prepared by Don Graf*

Office Data
Dining Alcove 236
Sines 0° to 45° Cosines 45° to 90° 237
Typical Hotel Guest Room 238
Wood Finish Flooring 239

"HERE, THERE, THIS, AND THAT"

Personal and News — Competition and Scholarship Announcements, Letters, etc. 235

Reader's Comment Items Required for Future Reference

Published Monthly by THE PENCIL POINTS PRESS, INC., *Stamford, Conn., U.S.A.*

Ralph Reinhold
President and Treasurer
Philip H. Hubbard
Vice President
L. F. Thompson
Vice President

EXECUTIVE AND EDITORIAL OFFICES
330 WEST 42nd STREET, NEW YORK, N. Y.

35 cents a copy. Yearly subscription $3.00, two years subscription $5.00, payable in advance, to the U. S. A., U. S. Possessions, Cuba and Mexico. Add $1.00 a year for postage for Foreign subscriptions. Canadian subscriptions 50 cents a year additional.

Remittances by International or American Express Money Orders or by Draft on a bank in the U. S. payable in United States funds.

Subscribers are requested to state profession or occupation.

Changes of address must reach us before the 20th of the month to assure delivery of forthcoming issue. Be sure to give both old and new address.

TO CONTRIBUTORS: Articles, drawings, photographs, etc., sent with a view to publication will be carefully considered, but the Publisher will not undertake responsibility for loss or damage.

Copyright, 1933, by Pencil Points Press, Inc. Trade Mark Registered. All rights reserved.

Pencil Points is indexed regularly in The Art Index.

A COMPETITION

Sponsored by the Scovill Manufacturing Company

This competition is open to all Architects, and to men or women who have been members of a recognized architects' organization *at any time* since March 1, 1932.

CLASS A: CASH AWARD $100

PROBLEM: An essay, not to exceed 1500 words, on modernizing an apartment house, hotel, office building, residence, or any building involving plumbing specifications. In the introduction state briefly: *First,* the value of modernization to the architect and to the building owner. *Second,* the importance of plumbing modernization as an integral part of such projects. *Third,* your opinion as to the most important points in specifying plumbing equipment.

To illustrate the subject, outline a modernization commission from your *actual experience.* Include the type and age of the building; the changes in plans; the solution of the plumbing problems; and the points involved in the selection of the plumbing equipment. (Neither the original nor the new brand of fittings need be mentioned by manufacturer's name.) In conclusion, tell how the building owner was approached, and the line of reasoning used in obtaining the commission.

Results of the solution of the above problem, such as increased tenancy, greater economy of operation, etc., should be covered and attested by a letter from the building owner or his business agent.

CLASS B: CASH AWARD $75

PROBLEM: An essay, not to exceed 1500 words, following the same conditions outlined in the first paragraph of the Class A problem.

To illustrate the points, assume a *hypothetical* modernization commission. Indicate the line of reasoning you would use with the building owner to obtain this commission. Point out the probable results of modernization—in increased tenancy, etc. —obtainable by skilful planning. A sketch plan may be attached to illustrate your proposal for modernizing plumbing arrangements and fittings.

GENERAL RULES

Contestants may enter *either* Class A or Class B—but not both. Only one essay will be accepted from each contestant.

Essays must be typed or written legibly in ink on one side of the paper only. Sign with a *nom de plume* or device and send in a *plain envelope* to Contest Director, Scovill Manufacturing Co., Plumbers' Brass Goods Division, Waterville, Conn. Enclose with the entry a plain, opaque envelope marked *Class A* or *Class B,* containing your real name, full address, position, and name of firm. Excellence of English, while desirable, will not be given undue weight as compared to grasp of the subject. Entries will be returned at the close of the competition if postage is enclosed.

The judges will be the following men:

CASS GILBERT, JR.....Cass Gilbert, Inc., New York City
RAWSON HADDON.....Waterbury, Conn.
FRANCIS KEALLY.....New York City
LOUIS A. WALSH.....Waterbury, Conn.
RUSSELL WHITEHEAD.....Editor, *Pencil Points*

They will meet shortly after the close of the competition, and their report will be published. It is understood that all contestants agree to the conditions of this competition. The judges' decision is to be accepted as final.

If one or both winners wish to donate their awards to a charity limited to the Architectural Profession, the Scovill Manufacturing Company will donate an equal sum —provided the donation is made within two weeks after the winners are announced.

•

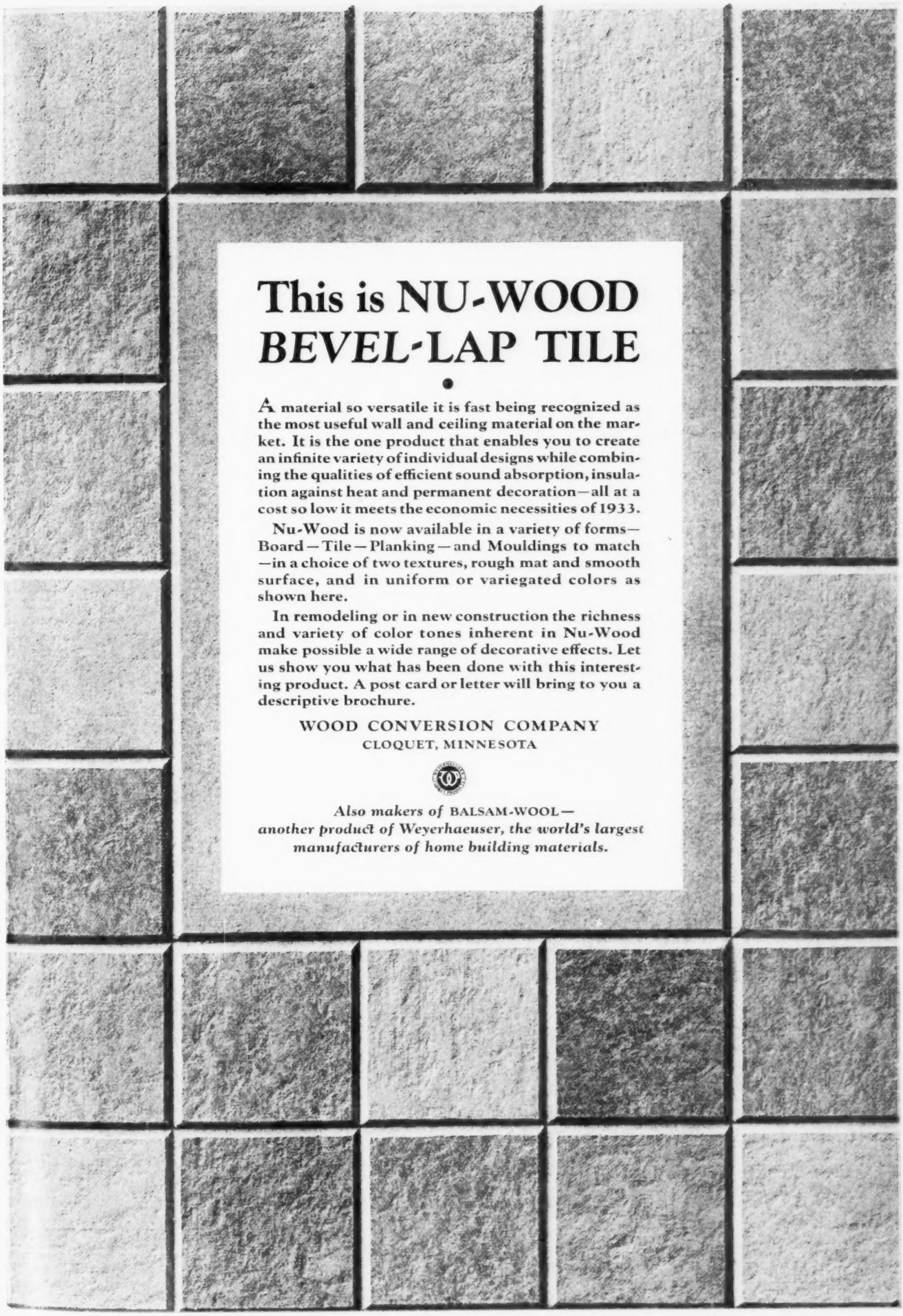
This competition closes at midnight, June 1, 1933

•

SCOVILL MANUFACTURING COMPANY
PLUMBERS' BRASS GOODS DIVISION
WATERVILLE • CONNECTICUT
Scovill Flush Valves—Shower, Bath and Lavatory Equipment—Tubular and Miscellaneous Plumbers' Brass Goods

Scovill

SCOVILL



This is NU-WOOD *BEVEL*-LAP TILE

•

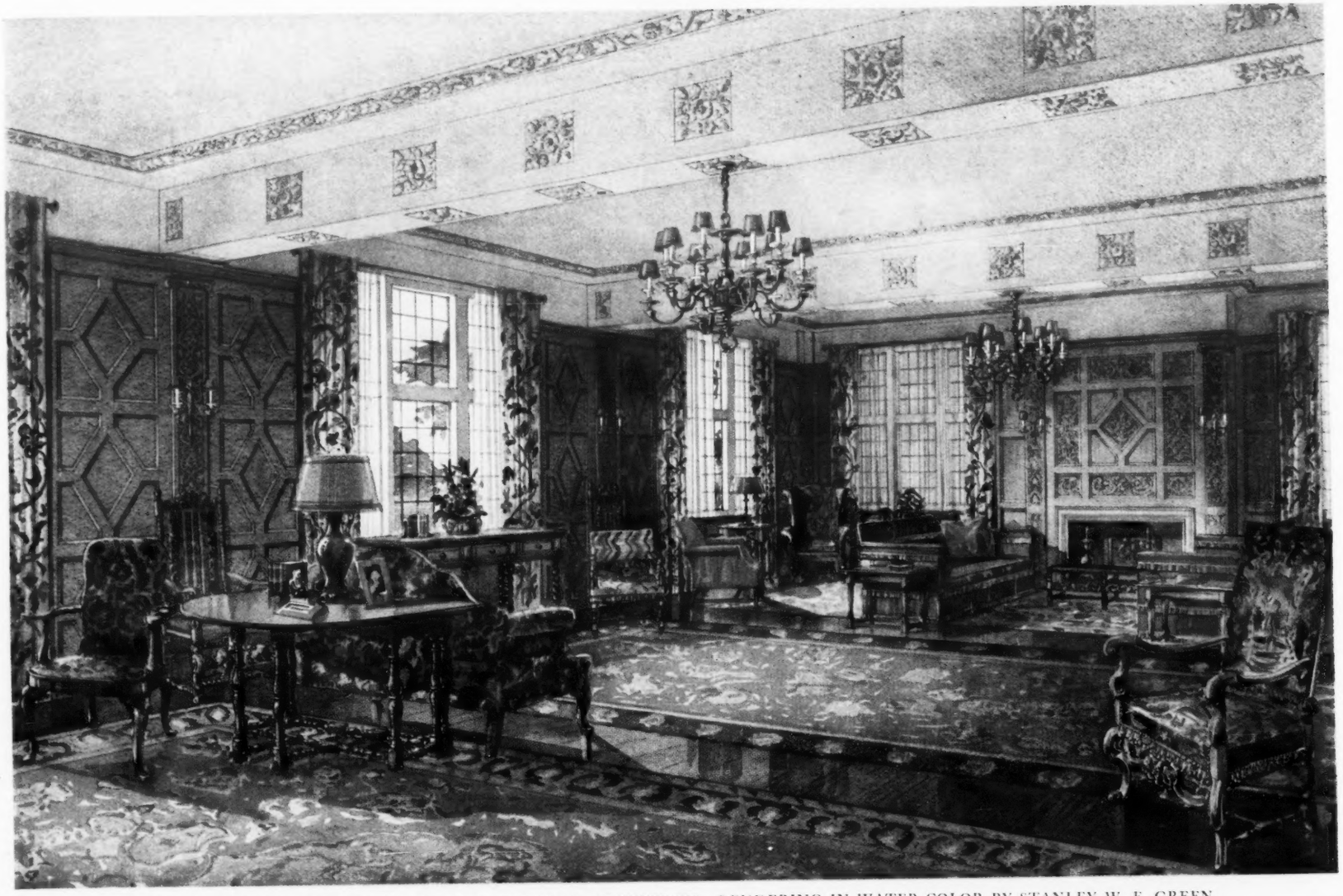
A material so versatile it is fast being recognized as the most useful wall and ceiling material on the market. It is the one product that enables you to create an infinite variety of individual designs while combining the qualities of efficient sound absorption, insulation against heat and permanent decoration—all at a cost so low it meets the economic necessities of 1933.

Nu-Wood is now available in a variety of forms—Board—Tile—Planking—and Mouldings to match—in a choice of two textures, rough mat and smooth surface, and in uniform or variegated colors as shown here.

In remodeling or in new construction the richness and variety of color tones inherent in Nu-Wood make possible a wide range of decorative effects. Let us show you what has been done with this interesting product. A post card or letter will bring to you a descriptive brochure.

WOOD CONVERSION COMPANY
CLOQUET, MINNESOTA

Also makers of BALSAM-WOOL—
another product of Weyerhaeuser, the world's largest manufacturers of home building materials.



DESIGN FOR PROPOSED LADIES' PARLOR, CRAM AND FERGUSON, ARCHITECTS—RENDERING IN WATER COLOR BY STANLEY W. E. GREEN

This plate was reproduced from a drawing by Stanley W. E. Green of the organization of Irving & Casson-A. H. Davenport Company who were to execute the furnishings and interior woodwork under the direction of the architects. The rendering is typical of those made by the better class of interior decorators and was done over a careful pencil layout on a sheet of cold-pressed mounted Whatman's. The original measured 28½" x 17". Transparent water colors were used throughout.

PENCIL POINTS
(May, 1933)

PENCIL POINTS
Volume XIV May, 1933 Number 5

Architectural *Weeds* Versus *Needs*

By Ernest John Russell, F. A. I. A.

Editor's Note:—*The leading article in last month's issue, "Can We* Know *What to Build Where?" attracted much attention in the profession and drew expressions of approval from architects in many parts of the country. Among others who join in urging that architects and economists join to attack the basic problem of proper land utilization is the President of the American Institute of Architects, whose views we are glad to present here. We do not believe it possible to emphasize too strongly that architects can serve their own interests best today by cooperating with their fellows in each community, whether it be great city or small town, to survey the present physical and financial condition of existing buildings of all types and to determine the factors that affect the demand for their use. When the true facts are assembled and studied, unsuspected relationships are likely to become evident which will lead to an intelligent program for future building. Such efforts are already producing results in the communities that have been foresighted enough to go at the problem vigorously.*

The article by Mr. O. H. Cheney in the April issue of PENCIL POINTS demonstrates very clearly the necessity of a comprehensive survey of building needs. There are a number of national organizations that have made partial surveys and it might be advantageous to have them create a council for the purpose of formulating a program that could be used as a guide for communities in making such surveys. Such a council might also collect the data that is available at present and publish it as an educational document.

While office building managers in some of the large cities believe that the normal increase for office space should be at the rate of six per cent per annum, this rate may not apply in all sections of the country, and might be of little help to smaller communities that, nevertheless, indulge in many mistakes in this regard.

The amount of merchandising space that a given population would support has been occasionally predicted, but this prediction should be enlarged upon and the facts should be made known because of the tremendous waste that is constantly indulged in for this particular purpose.

Residential, institutional, and industrial needs should be determined. The suitability of location for each type of building is of the utmost importance as one of our greatest troubles comes from architectural weeds (the dictionary defines a weed as "a plant out of place"). It would be interesting and valuable for each community to catalogue its architectural weeds. St. Louis could show an interesting exhibit along these lines where there are wholesale houses between residential and retail districts, mis-located hotels that are financial failures, and combination buildings that should serve as warnings.

The architectural profession could benefit posterity immeasurably by assisting in such an analysis and by bringing the mistakes to the attention of investors. Such a survey, to be most convincing, should be participated in by all of the branches of the industry as the architect looks at a building from but one point of view, while realtors, investment bankers, and city planners have their varying approaches to such a problem.

Mr. Cheney's statement parallels in thought those activities of the present administration in Washington that are directed toward consolidating the various agencies having to do with farm relief and credit, the merging of public works agencies, likewise the suggested appointment of a railroad co-ordinator, whose duty will be to eliminate the wasteful practices that are indulged in of necessity because competition is uncontrolled. What a marvelous job this railroad co-ordinator could do if he were given the power to tear up the unnecessary parallel tracks that were originally installed more because of personal ambitions than of need for increased facilities.

The case for the building industry closely parallels that of the railroads in that there has always been keen and uncontrolled competition which has resulted in needless duplication of space and in ignoring suitability of location.

It is a wide field that Mr. Cheney has opened to us. I sincerely trust that his suggestions will be followed for I believe they would result in the greatest economies and that in time wasteful buildings would be reduced to a minimum. We will probably find it essential some day to set up Boards similar to those of Public Service Commissions with the power to refuse permits unless necessity for the project is convincingly proved.

I have such confidence in the members of the architectural profession that I am convinced they are ready to do their share in bringing about a much more wholesome condition that will be of great value to the investing public, and will at the same time establish the highest sort of a standard for the building industry.

Let us hope that Mr. Cheney has stimulated thoughts that can be translated into actions.

Facts Found Now Will Bear Fruit Later

Architects in a given community, whether it be a large city or a small town, can do themselves no greater service at the present time than by accumulating, coordinating, and studying factual information pertaining to the physical and financial condition of existing buildings and their state of occupancy. The livelihood of the profession depends upon the future demand for buildings. That demand, if it is to be healthy, is going to depend upon actual needs rather than upon speculative surmises. The only reliable method for determining needs is to base such determination on *knowledge* of existing accommodations and of the economic factors and trends which influence the demand for these accommodations. The securing and coordination of such knowledge is of course beyond the capacity of a single individual, except possibly in a very small town. This makes it necessary for the architects of a community to cooperate with each other and with the real estate and financial interests that have to do with building enterprises.

The New York Building Congress is now and has been for some time at work on a survey of the conditions of real estate in Manhattan and other boroughs of the metropolitan area. When this work was undertaken it was found first of all that a great deal of information had already been collected by various civic and municipal organizations and by the United States Census. Access was obtained to a large quantity of this existing data and a program was mapped out and followed to secure additional data through the activities of a number of draftsmen provided by the Architects' Emergency Committee and the Emergency Work Bureau. The committee directing this work consisted of a group of architects and an approximately equal number of economists. This committee started out as an informal group, but when the importance of its activities became evident, it was made an official committee of the Building Congress. Present indications are that the study is going to bear fruit and that it will serve as a basis for intelligent future development of New York real estate—which will benefit all parties concerned.

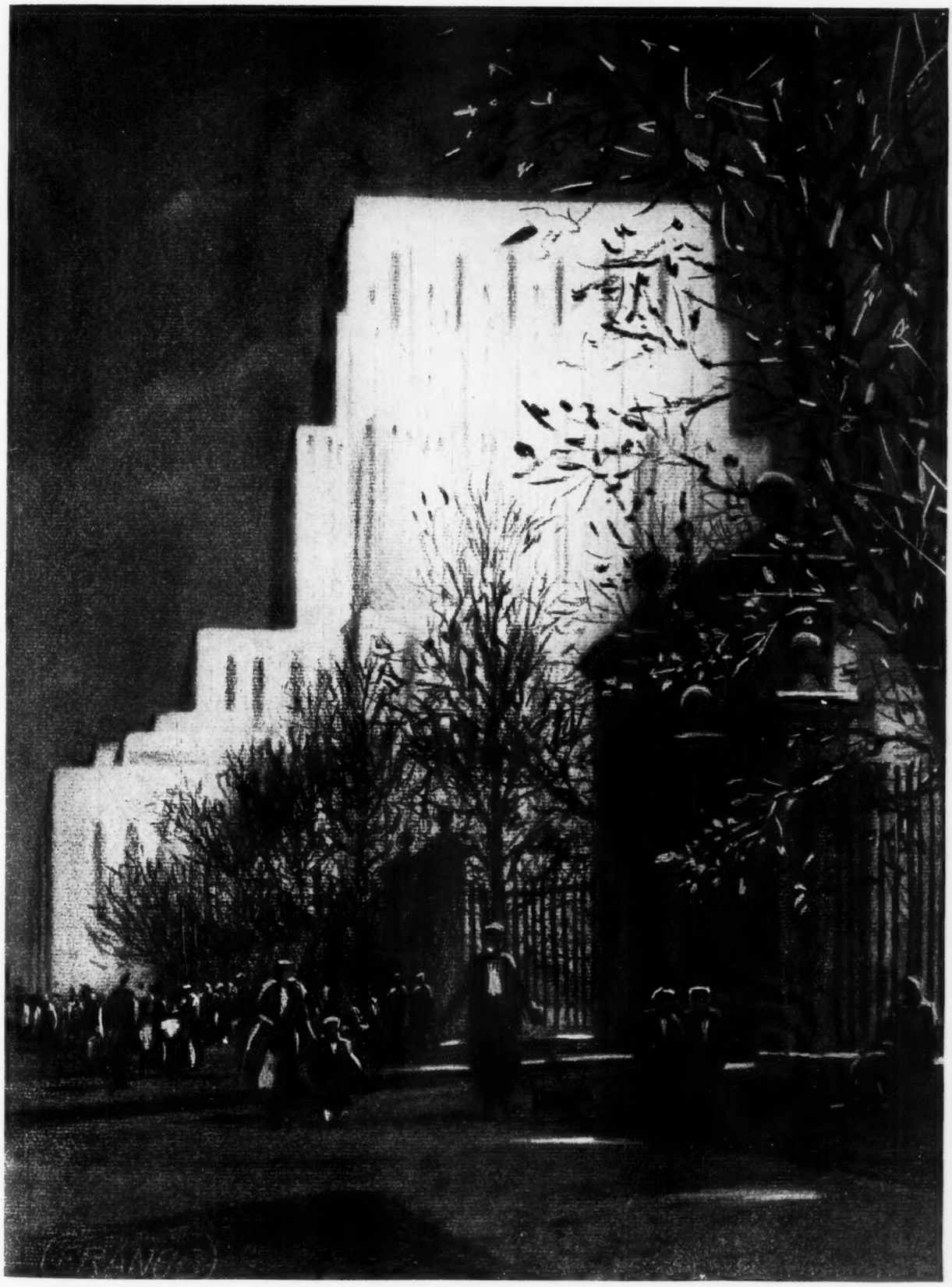
Architects in other cities have been and are actively engaged on similar studies. In Cleveland, for example, they have been at it for two years, and we are told that five sizable housing projects have been turned up as a result, the need for which was not convincingly apparent when the study was begun.

One of the significant things that is being brought out by the New York survey is that most land is definitely greatly overvalued. The overvaluation is based on the fallacious belief of a large proportion of property owners that their particular plots are potential sites for future commercial buildings upon which large profits could be made. The facts as collected and graphically presented show that, although Manhattan Island is and should be predominantly residential, the high valuations have caused a steady outflow of population for a number of years. They show also that, as a result of the forced outflow, a great volume of vacancies have been produced so that many blocks of residential properties are being operated at a loss. Facts obtained in the Census of 1930 show that the relationships between the incomes of the population and the rents demanded for residential accommodations have been seriously out of balance. The true value of the land is seen to be much less than that which has been placed upon it by the real estate operators, the property owners, and the city assessors. The same situation undoubtedly prevails in most other urban communities.

It is time that general recognition should be given to the principle that land is worth only what it can earn and that it cannot be expected to earn more than the traffic will bear. One of the obstacles now in the way of many housing projects for slum replacements is that the land is being held at too high a valuation, which makes it impossible to keep the rents low enough to do any good. The alternatives seem to be either to transfer the slum denizens to the outskirts of our cities by building them accommodations where land is cheap or to bring about, through condemnation proceedings or otherwise, a lower valuation of the land at present occupied by slums so that low rental housing could be built there. The facts that are now being brought together in various cities are making obvious in uncontradictory fashion the things that have hitherto been understood only by the more enlightened persons who have been thinking about the problem.

Other facts relating to business and industrial buildings are making it clear that certain areas are overbuilt with certain types of accommodation while others are lacking, that zoning has in some instances allowed entirely too much area for business or industrial use, and that the whole situation in regard to city and town planning is in need of intensive re-study. These things, tackled now, while architects have time on their hands, will surely pay dividends later on. It is up to the profession to take an active part.

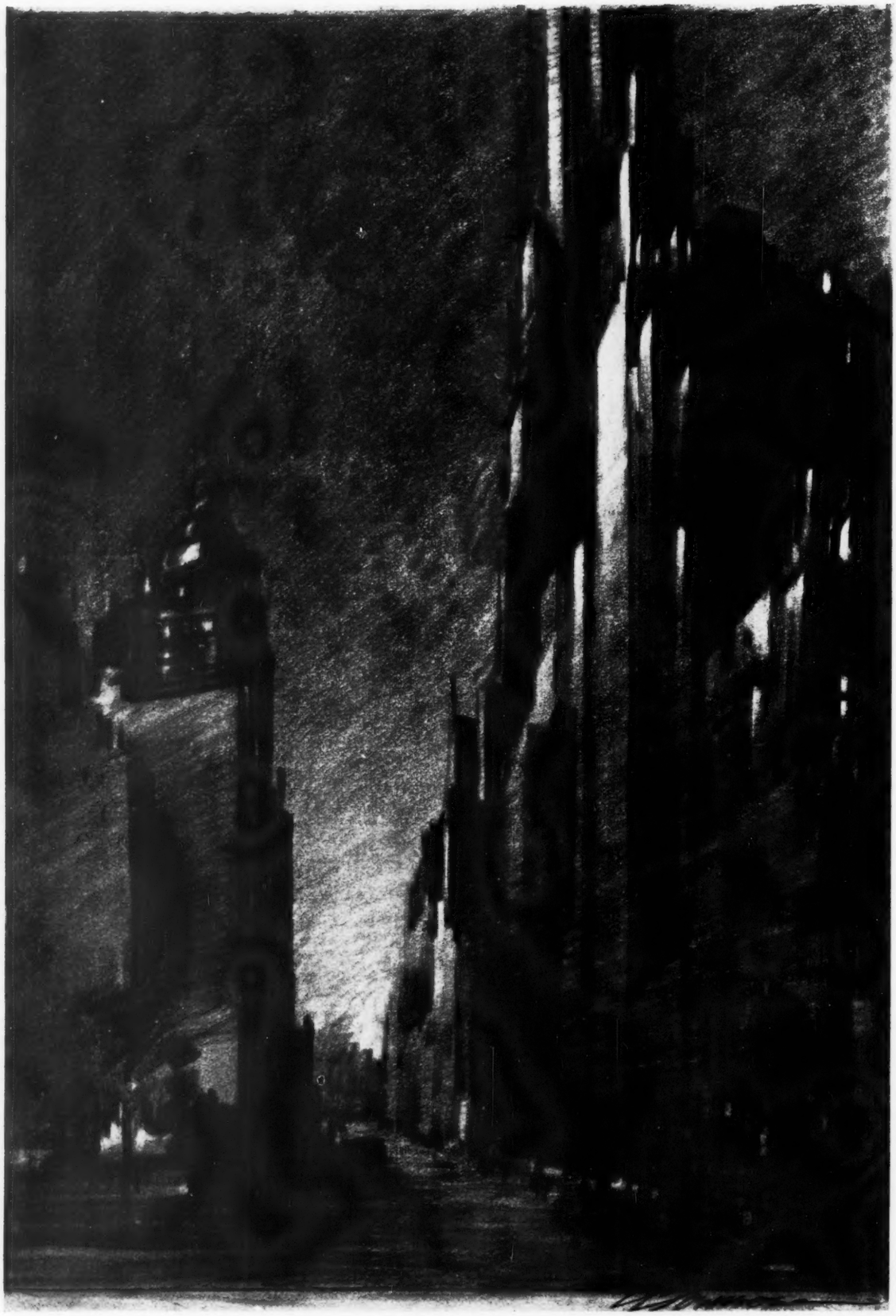
Let us repeat, for we feel it very strongly, that there is probably nothing a group of architects located in any part of the country can do which will stimulate work in such large volume as to make, now, a really intelligent and thorough study of the existing stock of buildings in relation to probable future demand. This is no royal road to a job, but even although much hard work is involved, there is no surer way to bring about a revival of private building.



FROM A DRAWING BY E. P. CHRYSTIE

CORNELL MEDICAL CENTER, NEW YORK

Drawn with charcoal on white paper with touches of white chalk.



FROM A CONTE CRAYON DRAWING BY A. T. TORNROSE—STUDY FOR AN ETCHING

The original, which measures 11¾" x 16½", was drawn on newsprint stock which takes crayon very nicely. The scene depicted is purely imaginary and provides simply a study in composition. The artist is a commercial illustrator of long experience and it is interesting to see his approach to the delineation of an architectural subject.

Wrought Metalwork, 1

By Bernard Heatherley

Editor's Note:—*This article is the first of a series on the subject of wrought metalwork, written by a man who is particularly well qualified by training and experience to discuss for architects the matters pertaining to the metal crafts. He was born at London, England, and trained there first in furniture design and later in architecture. He came to the United States in 1921 and thereafter spent about two and a half years under Samuel Yellin. He then engaged in architectural work in Philadelphia, Rochester, N. Y., and Utica, N. Y. He is a member of the A.I.A. and a registered architect in the State of New York. Late in 1931 Mr. Heatherley rejoined Mr. Yellin's organization and spent about fifteen months in charge of his shop. He is now a metal craftsman in his own name.*

There are certain ways of using materials which make of their use what is called a "craft." It is a much abused word (being a favorite of the Gifte Shoppe and the arty sweatshop alike) and one eminent craftsman—when asked to explain what he understood by "craftsmanship"—has been known to say, "You can't explain it—you can only do it!" However, to crystallize the meaning of the word for present purposes, let us say that in the proper practice of a craft we have the element of art together with certain laws controlling the tools and methods employed. This prevents the craftsman's use of material from being classified as a "trade"—wherein, today, art usually has no place and practicality alone governs the methods of production. Trades and crafts often use the same materials but their uses thereof differ widely. In the case of wood, for example, the man who makes crates is hardly a craftsman, while the man who carves wood—might be.

Now of all the crafts practiced the least understood and appreciated seems to be, for some odd reason, that of wrought metalwork in general and wrought ironwork in particular. Therefore, this and ensuing articles and illustrations have been prepared in the belief that they will help towards the truer understanding of the craft that many more people could and should enjoy. I hope that it will not offend too deeply when I say that if most of the executed work about us is the gauge by which we must measure the knowledge and ability of the average metal craftsman —then he obviously has much to learn. This fact reflects upon the architect and decorator who would be able to render a fuller service were they more learned in the true meaning of such work. And a sharpening of the layman's critical faculty would bring not only an increased appreciation of fine things but also the ability to judge whether he is receiving full value for what he spends. It is very strange, but very common, to see—perhaps a building—perhaps just a room, where a fine result has been achieved with all the other crafts employed—the masonry, the woodwork, tile, plaster, and furniture—but where, as soon as decorative metalwork is introduced it is as though all sense of the fit and the proper had been lost. Such elementary requirements as shape and proportion (to say nothing of design and execution) are forgotten in the metalwork although remembered in everything else. The writings on this subject, as they occasionally appear in print, with their illustrations, usually provide additional evidence of a lack of understanding and are more sympathetic than discriminating; if further proofs of popular misconceptions were needed, the craftsman's mailbag and the average specification given to him would provide them.

Perhaps the greatest share of the blame for these conditions must be borne by the craftsmen, for it is primarily their place to understand the craft and to spread the gospel of good work. Facilities for study—documents and examples—are available to all, and the making of good work is as much a matter of logic as of heart. Only to a degree can the architect be blamed. In spite of Pytheos it is impossible for an architect to know thoroughly all the details of design and technique of all the crafts he employs. He has the right to expect that a man professing to a craft will relieve him of that necessity. In one respect, however, the architect is often culpable. Through either ignorance or indifference he is too seldom willing to make the effort necessary to obtain an adequate appropriation for the metalwork on his building. He and his client, therefore, quite often receive the products of a trade—although both may believe that they have examples of craftsmanship. In this connection it should be said that a proper sense of design and feeling for the material will permit fine things to be done at no greater expense than a "tradesman's" interpretation may involve. Of this more will be said later.

The foregoing may read as a rather sweeping indictment of all the people who usually have to do with metalwork and it would be unfair to have written it without offering some suggestions for improving the condition that exists. Fortunately there are one or two rare souls who thoroughly understand this work and who are developing the craft sanely with whatever present-day helps are applicable to it. They have not cast aside the traditions (to do so is especially dangerous in making fine decorative metalwork) and in their slow, discriminating, and restrictive acceptance of the machine and modern technological device, have kept their work an art—instead of permitting it to become a manufacture or a trade. These are the men capable of judging the merits of what is being made and with whom it is safe to place work. For those who do not know what constitutes fine work, however, it might be difficult to decide who is of this class and who is not. The information here presented,

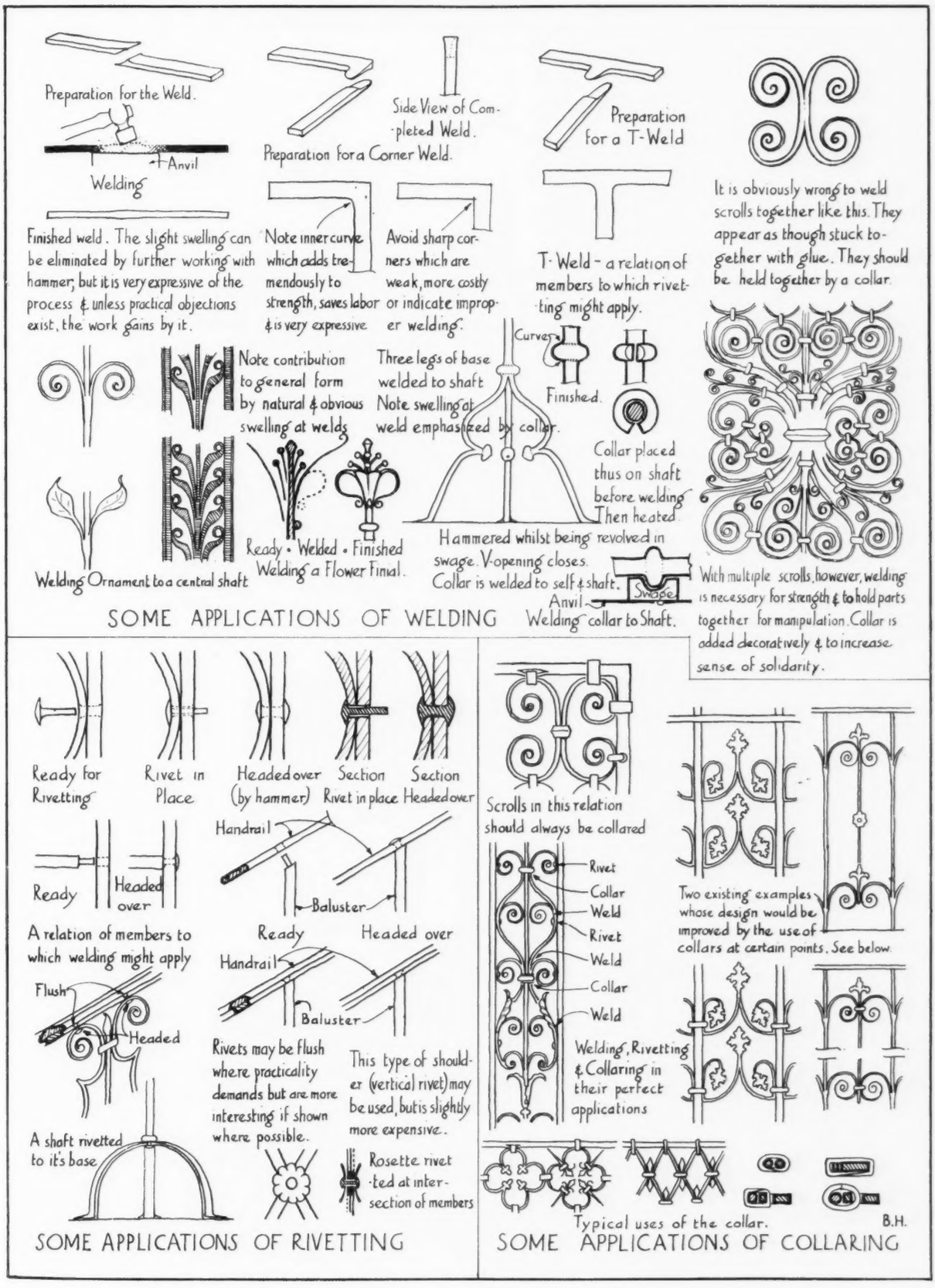
then, is intended to show what points such a decision should rest on. It is not intended to show the architect how to design and detail metalwork and thus usurp one of the proper functions of the craftsman—although suggestions will be made as to methods of indication and improvements in specification. In telling some of the blacksmith's secrets a more correct appraisal of different works will be rendered possible and the reasons for costliness as well as the ways to avoid it will be made plain. The illustrations will show different ways of doing similar things and will compare these various methods from the artistic, the practical and the economic viewpoints.

A certain mental attitude is necessary to the proper appreciation and working of metals as a craft. The keynote of this whole attitude is an understanding of the nature of the material. From this comes a belief in the propriety of certain tools and methods in working it and that the way in which a form is made is as important as the form itself. Iron may, figuratively (like the horse), be led to water, but (unlike the horse), it *can* be forced to drink. The results of such treatment are very painful to behold. True mastery of a material is shown in leading it along those paths wherein it is most tractable. The nature of iron has not changed through the ages and under the traditional tools and methods it has shown itself to be most tractable—having fewer limitations and more artistic possibilities than any other metal. In spite of the developments of new alloys, new processes, and new appliances, it still holds that place of honor. It must be with great care and respect, then, that we apply new devices to this patriarch of materials, although it is not necessary to feel that good craftsmanship was only possible before the machine age and that it demands confinement to primitive methods. The necessity comes—when using new tools and processes—in not stepping beyond that disciplinary line by which all art is bound. So, although the nature of iron requires that the greater part of the work done on it be handwork, there can be no just objection to the correct use of certain mechanical tools, such as, the drill press, the saw, the shear, the grinding wheel, or even the power hammer. Some of these tools are in the direct line of tradition and show a logical development of efficiency. Traditionally, power was used where possible and we have merely substituted the dynamo for the water-wheel. Even the artistically dangerous welding torch had its primitive forerunners and many have been the devices for supplying the furnace draft by means other than hand power. These things steal nothing from the proper practice of the craft. Neither do they add much or make possible what was not possible before. Their "advantages" lie in making certain parts of the preparatory work easier and quicker and thus reducing costs. The moment they are used for purposes beyond their proper scope—art—craft—design—all depart. In view of certain problems currently before the world they have yet to justify themselves.

To those who hold that the day of handcrafts is over, it is only necessary to point out (not considering here the inevitable cycles in human activities) the perpetual joy men get from working with their hands and to compare a good product of the hand—its individual character and beauty—with the stereotyped product of a quantity making machine—each replica created stealing something from its mates however fine the first made piece may have been. Beauty has never satisfactorily been defined, but one of the laws by which it exists surely is that any exact repetition of itself weakens it.

* * * * *

It is not the purpose of this work to deal with historic design except where a process shown is definitely stylistic or archæological. The problems dealt with are those of the present day and their solutions come from experience in the craft rather than from an absolutely exhaustive study of the subject in books and museums. Since, in good metalwork, design is inseparable from the process that brings it into being, and since this design is derived mainly from structure, the three main structural methods employed should introduce the subject. It is on the repetition, the arrangements, the varying and correct applications of these methods that the whole theory of wrought metalwork design depends. First is the weld; second, the rivet; third, the collar. Welding is the beating of two pieces of iron together whilst they are in a hot and plastic state so that they merge and become inseparably one. Properly done, it is the strongest of all methods of joining pieces of metal together. It has many applications, some of which are shown in the accompanying illustrations. There are places where welding is demanded; borderline conditions where riveting might apply equally well; and places where to weld would be entirely wrong. The process of welding is to prepare the junction points of the two pieces (by various methods) in such a way that they have a greater volume of material than the finished weld will show. They are then placed in the fire and are heated *slowly*. The fire must be absolutely clean as the presence of any dirt at the weld will prevent the pieces from "sticking"—and a slow rate of heating is necessary so that the metal may heat to the correct degree of plasticity throughout its whole section instead of at the outside only. In earlier days sand was sometimes thrown on the heating metal and later borax was used similarly. There are at present several "welding powders" to be obtained. Some claim that these various powders act as a flux, make an easier weld, drive the air from the weld and assure its cleanliness. Actually, a perfect weld can be achieved without the use of powders or sand although they have their use. The correct welding point is indicated when the iron in the fire shows the first signs of giving a fine sparkling pyrotechnic display. It is white hot at this point and if left in the fire would, indeed, develop into fireworks and would burn away. Now that the iron is ready, speed and accuracy are the prime factors. The two pieces are quickly lifted from the forge, placed on the anvil in their correct relation and immediately hammered together. Any loss of time means a loss of plasticity in the metal with a consequent loss of

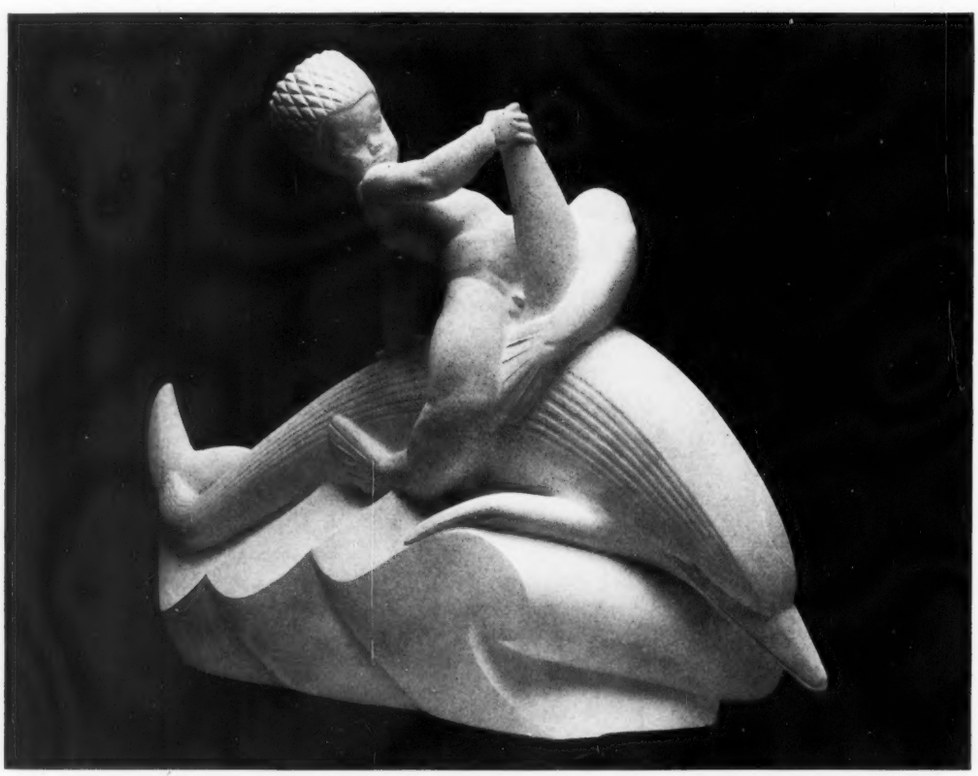

Preparation for the Welding
Anvil
Welding
Finished weld. The slight swelling can be eliminated by further working with hammer; but it is very expressive of the process & unless practical objections exist, the work gains by it.
Preparation for a Corner Weld.
Side View of Completed Weld.
Note inner curve which adds tremendously to strength, saves labor & is very expressive
Avoid sharp corners which are weak, more costly or indicate improper welding.
Preparation for a T-Weld
T-Weld - a relation of members to which riveting might apply.
It is obviously wrong to weld scrolls together like this. They appear as though stuck together with glue. They should be held together by a collar.
Note contribution to general form by natural & obvious swelling at welds
Three legs of base welded to shaft Note swelling at weld emphasized by collar.
Curved
Finished
Collar placed thus on shaft before welding Then heated
Welding Ornament to a central shaft
Ready • Welded • Finished
Welding a Flower Finial.
Hammered whilst being revolved in swage. V-opening closes. Collar is welded to self & shaft.
Swage
Anvil
Welding collar to Shaft.
With multiple scrolls, however, welding is necessary for strength & to hold parts together for manipulation. Collar is added decoratively & to increase sense of solidarity.
SOME APPLICATIONS OF WELDING
Ready for Riveting
Rivet in Place
Headed over (by hammer)
Section Rivet in place
Section Headed over
Ready
Headed over
Handrail
Baluster
A relation of members to which welding might apply
Ready
Headed over
Handrail
Baluster
Flush
Headed
A shaft rivetted to it's base
Rivets may be flush where practicality demands but are more interesting if shown where possible.
This type of shoulder (vertical) rivet) may be used, but is slightly more expensive.
Rosette rivet-ted at intersection of members
SOME APPLICATIONS OF RIVETTING
Scrolls in this relation should always be collared
Rivet
Collar
Weld
Rivet
Weld
Collar
Weld
Welding, Rivetting & Collaring in their perfect applications
Two existing examples whose design would be improved by the use of collars at certain points. See below.
Typical uses of the collar.
B.H.
SOME APPLICATIONS OF COLLARING

THE THREE FUNDAMENTAL METHODS OF CONSTRUCTING DECORATIVE WROUGHT IRONWORK

ready adhesion and, if left too long, there arises the necessity of reheating and rehammering. In some cases a weld is so big that two heatings must be counted on. Welding on the anvil is a very thrilling and exciting experience and provides some of the most picturesque moments in the craft. It is not always possible to obtain the ultimately desired shape in the actual welding process. When this is the case, the work is reheated and *hammered* to its correct form. This is, briefly, the craftsman's way of welding and has for many years resulted in perfect welds of fine appearance. Later it is intended to discuss some modern welding innovations and to examine how they relate to craftsmanship.

The process of riveting is the passing of a metal shank through a hole and hammering the end of the shank so that it thickens and spreads, filling the hole and preventing withdrawal. Sometimes the problem is one of joining two pieces of metal together with a separate rivet. In this case, the rivet must have a head on one end of the shank before it is passed through the corresponding holes in the two pieces of material and "headed over" at the shank's other end. Sometimes the rivet is "shouldered" or "tenoned" on the end of a bar (as it might be—a stair baluster), pushed through the hole in the other member, and headed over. There are other methods which will also receive attention. The cross section of rivets is often a variation on the typical round—as the problem may dictate. All holes for rivets should be countersunk where the rivet is headed over and a great deal of riveting can be done perfectly well without heating the metal.

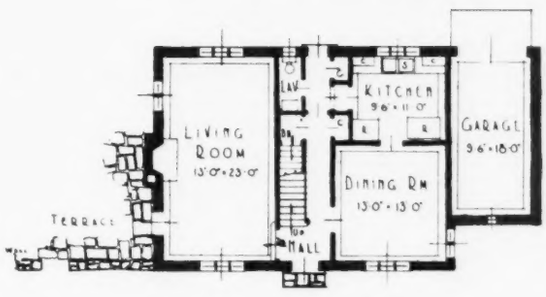
There is more interchangeability between the processes of riveting and collaring than between welding and either riveting or collaring. Collaring is the seizing of one member to another and wrapping a band of metal around the two pieces to hold them in their relative positions. A collar may be of almost any section, depending upon the general design. It is seldom necessary to weld the collar—thus making a complete ring—overlapping of the ends being perfectly adequate in most cases. Sometimes the ends of a collar are riveted together, but this is labor that might well be saved. The welding or riveting of collars, besides entailing a great deal of unnecessary work, gives a result not nearly as interesting as merely overlapping the ends. This does not apply, of course, to the decorative collar applied, for instance, to a spindle. In this case the welding of the collar to the spindle is a most necessary and desirable practice. The three processes just described bring up two particularly interesting points. They suggest comparison with certain phases of cast work as well as a consideration of the legitimacy of taking the heat to the metal instead of taking the metal to the heat. These matters will be taken up in later writings.



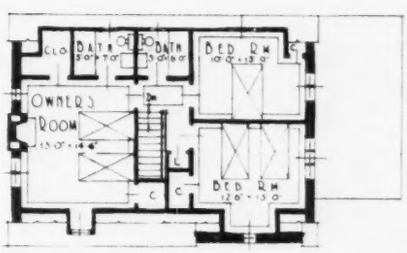
FOUNTAIN FOR COLORADO SPRINGS DAY NURSERY, COLORADO SPRINGS, COLORADO

BENJAMIN HAWKINS, SCULPTOR

The original sculpture is 5'0" x 1'4" x 4'6". It was awarded the Avery Prize for Small Sculpture at the recent Annual Exhibition of the Architectural League of New York.



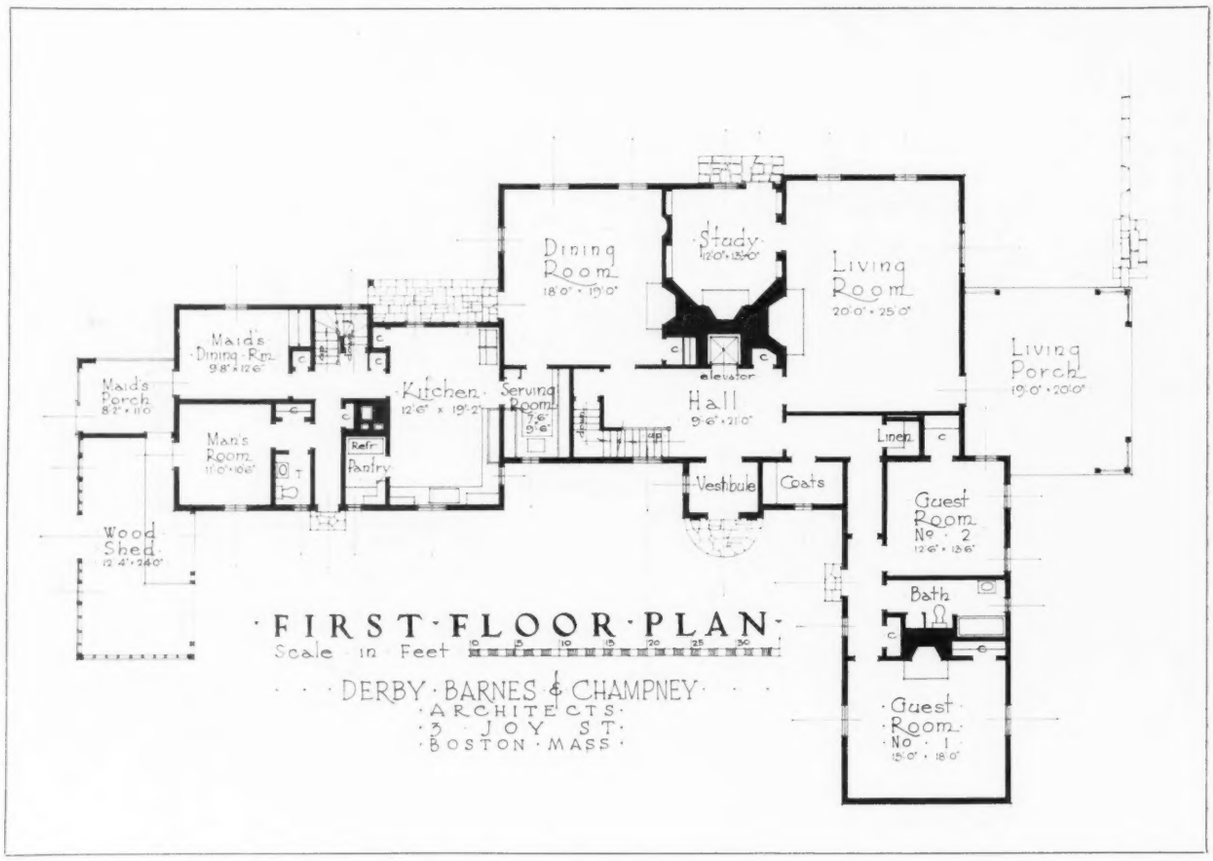
FIRST FLOOR PLAN



SECOND FLOOR PLAN

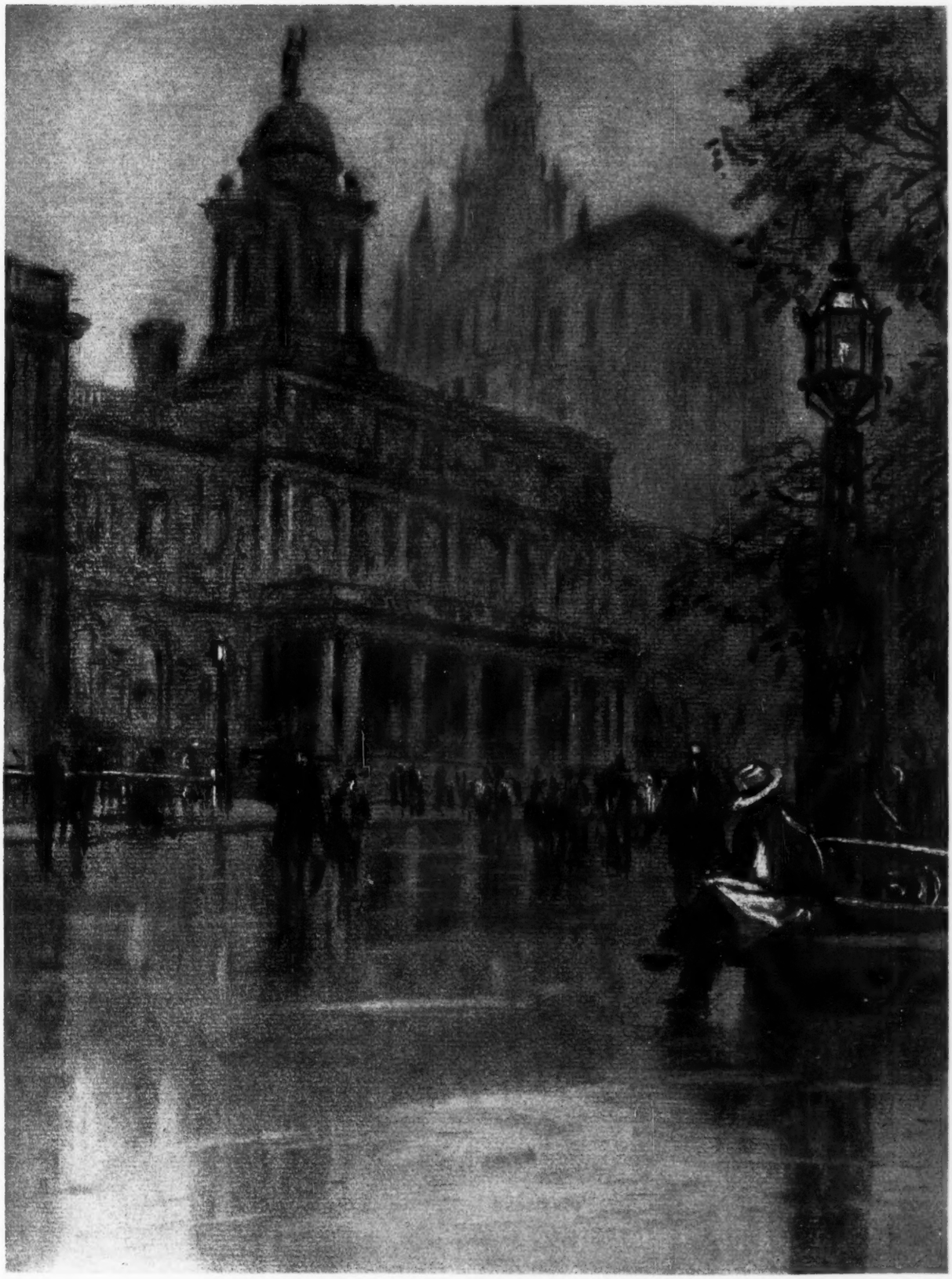
ROYAL BARRY WILLS, ARCHITECT

This house was designed to provide, at a low price, a house containing every element that a small family might require or desire. The architect has provided for three fireplaces, two baths and a two-fixture lavatory, a recreation room in the basement, a stepped down living room, slate roof, steel sash with metal screens, a wrought iron stair rail, ample closet space, and other features attractive to the average family. The house cubes up to 27,000 cubic feet with a plan 36' x 25'. The stone work is to be cut stone scrap from a local quarry. The interior walls are to have one coat of plaster, tinted, and the trim has been held to a minimum.



A HOUSE IN NEW HAMPSHIRE BY DERBY, BARNES & CHAMPNEY, ARCHITECTS

The sketch of the house shows the north side taken from the country road which passes, running in a generally east and west direction. The view, of rolling hills, stretches out to the south and west with gently sloping land and meadow in the foreground. The prevailing breeze in summer is from the southwest. The plan is arranged to give the living rooms and porch the benefit of the view and breeze. The garden is to the west of the living porch. On the second floor of the main house are two large bedrooms each with its own bathroom; and one sleeping porch adjoining the room over the dining room. There is also a trunk room conveniently located in this part of the house. The maids' rooms and bathroom are on the second floor of the service ell. The wood finish throughout is painted with the exception of the study which is of white pine finished a soft brown. The house is thoroughly insulated and is heated with hot air—the main house and guest room ell having one furnace with blower, and the service ell a second smaller furnace. A hand-operated elevator designed for both passengers and freight runs from basement to the second floor. Water is supplied from a hillside reservoir stepped up for house use through a pressure system located in the basement.



FROM A DRAWING BY E. P. CHRYSTIE

CITY HALL, NEW YORK

Drawn with charcoal on gray paper with touches of white chalk.

More on Stairs

In Which a Few Questions are Raised Bearing on Comfort and Safety

By Frederick E. Markus

Much has been written about the rules and formulas for proportioning treads and risers. But rules and formulas do not take into consideration certain physical conditions incidental to mounting and descending a stairway. The errors as a result thereof are most apparent in short runs and in individual treads tucked into odd places.

The natural speed with which one climbs a stairway may vary considerably depending on whether the climb is a long pull or just a few steps and the length of one's climbing step is proportional to the speed. Therefore, short runs of steps would be more naturally proportioned if the treads and risers were increased somewhat from accepted standards. It should also be obvious that out-of-door stairs can have a somewhat greater tread or rise, as the case may be, because in the open air it is less fatiguing to climb stairs. How much difference to allow for interior and exterior stairs, becomes a matter of feeling.

Let me give an actual example to illustrate the absurdity of our rule of thumb applied in one particular case. A large fire station just completed, has a billiard and social room leading from the apparatus floor. There is a difference of 32″ in floor levels. Cement finish steps without nosing connect the two. The treads are nine inches, the risers eight. This would fit most rules pretty closely. Now, fire companies are made up of rather robust individuals. Can you imagine a fireman breezing out after a round of billiards, and checking himself on approaching these steps to carefully place his 13″ feet on the 9″ treads? A single intermediate step would no doubt feel much more natural to a fireman, than the four little bumps. And to suppose that a fireman in responding to an alarm actually hobbles down these steps is, of course, absurd. He will be tempted to jump the whole flight. Yet, is there not a considerable element of danger in jumping such a stairway? I would have preferred at least a 14″ tread with this same 8″ rise. Then, for such a short run, one's walking or running tempo is not greatly disturbed in ascending or descending. Such a run is not long enough to tire anyone. And with a wide tread, the steps could perhaps be made in two jumps by a fireman without great risk.

On the other hand, some of the older as well as new buildings at Harvard University have interesting examples of short flights of very comfortable steps, yet they would not fit any of our pet formulas. There are, for example, the outside steps in the court of the new Lowell House which serve the various entrance doors. For those having three risers, the tread is 14″ and the rise 8″. Where four risers are required, the tread is 13″ with the same rise as before. Most draftsmen would be alarmed at these figures, but I can vouch for the healthy feel of these steps.

Another good example at Harvard is University Hall, a fine old granite building. The four entrances are served by as many granite stairs of nine risers each. The treads are 15″ and the risers 8″. A real "masculine" stair if there ever was one.

Theatre and lecture halls furnish numerous examples of too ardent sticking to the rules of thumb. How often does one find a change in level requiring an intermediate step, where the step could just as well be broad and ample regardless of what the rise has to be. Yet only too often is a 7″ or 8″ rise given its rule-of-thumb tread. But perhaps the biggest fallacy of all is the habit of sticking a rule-of-thumb step against each rise for tiers of seats. For instance, if the seat tiers are 32″ wide, there is no reason why intermediate steps should not have a 16″ tread for risers up to about 8″. If two intermediate steps are required, then the tread could be 10-2/3″ wide. Observations will demonstrate the fact, that persons using these stair aisles place but one foot on each step, even though the series of treads alternate between, we will say, 9″ and 23″. Then why not make the treads uniform? Such a stair would be much safer to negotiate, to say nothing of a better appearance. It would still leave ample room for getting between seats.

The proportion for treads and risers can vary considerably from accepted rules, even on long runs, without any appreciable discomfort. There is, for example, the fine Italian stone stairway from 1st to 2nd floor in the Steward Gardner Museum courtyard. The tread is 14″, the rise 8″. There never was a more comfortable stairway.

Whenever you are in doubt about your next stairs, especially short runs, think in terms of your car and ask yourself: Does this little hill require second gear?

Courtesy Goodspeed's, Boston

SILHOUETTE OF SENLIS—FROM A DRYPOINT BY SAMUEL CHAMBERLAIN

REPRODUCED AT SIZE OF ORIGINAL

Courtesy Goodspeed's, Boston

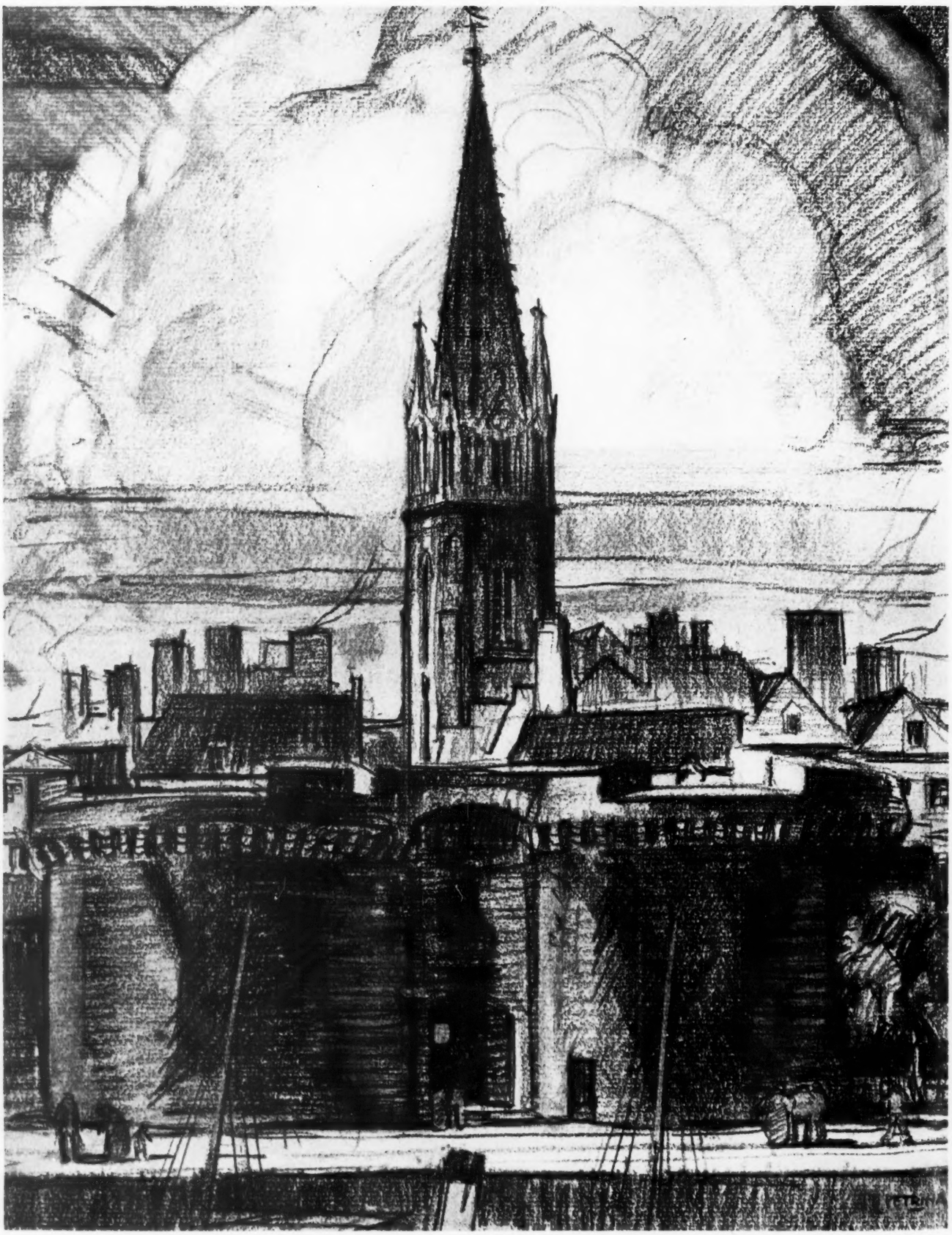
"LES ARBRES"—FROM A DRYPOINT BY SAMUEL CHAMBERLAIN

SIZE OF ORIGINAL, 10" x 7¼"

FROM A RENDERING IN PENCIL BY JOHN WELKER

A RESIDENCE BY PEABODY, WILSON, AND BROWN, ARCHITECTS

The rendering, which measures 28" x 12", was done on an ecru or cream tracing paper, quite thin and somewhat similar to onion skin paper. Paste was then applied to the back and permitted to dry for just a second before mounting on a piece of illustrator's board. As the paste dried unevenly a clouded effect was achieved which was further accentuated with pencil in the sky to form clouds. The building surface was then opaqued with white crayon pencil and a touch of color added here and there in the foliage.



LA GRANDE PORTE, ST. MALO, BRITTANY

FROM A CRAYON DRAWING BY JOHN PETRINA

Figures and Finance for the Architect

By Robert Lee Henry, C. P. A., L. L. B.

Editor's Note:—*In response to many inquiries regarding problems of office management and accounting procedure,* PENCIL POINTS *has recruited the service of the author, recognized as one of the foremost authorities on the financial phase of the architect's work, who will conduct this page hereafter and in addition to a regular monthly article will directly answer all questions where a Certified Public Accountant can be of assistance. Mr. Henry has been closely allied with the Architectural Profession for a long period of time and at present, under the auspices of the New York Architects' Emergency Committee in connection with its program of "made work," is actively engaged in the supervision of the preparation of a Uniform System of Accounting for Architects. Inquiries of this nature are invited. Letters directed to Mr. Robert Lee Henry,* PENCIL POINTS, *330 West 42nd Street, New York City, will receive prompt reply. If a question is of general interest it will be published, unsigned, in* PENCIL POINTS, *together with Mr. Henry's comments.*

There are few practicing architects whose offices are alive to the tremendous necessity for adjusting the old time "hit or miss" methods of conducting the financial, management, and accounting division of the office. To those who come within the larger group it is pointed out that while the great minds of the nation are jousting with the national and world-wide problem of economic readjustment the average architect has been sitting by in his ringside or, by this time, his gallery seat.

Completely ignored has been the well known and age old philosophy of the immortal Confucius who stated, when China was beside itself with difficulties, "Before we can put our nation in order we must put our states in order. Before we can put our state in order we must put our families in order. But, before we can put our families in order we must put ourselves in order."

It cannot be disputed that the philosophy of the wise old Chinese applies to the architectural family and, more specifically, to the architect in his office.

Has the practitioner who is standing by, awaiting the gong that will ring in the return of a normal amount of work, done everything possible, from the viewpoint of scientific office and financial management, to make himself ready for the so-called "New Deal" which, if effective, is bound to reach him too? Moreover, and this for the benefit of the conservatives, even if we are to assume that the recovery will be slow and that the only prospect for future work is in small house and alteration design, what about making just a little more profit out of that type of work and also out of the work on hand?

It is true that prior to the last few years the average architect was interested primarily in his artistic endeavors and that finance and its blood relatives, accountancy and management, occupied only a secondary position. However, the economic epoch through which we are now passing has forcibly brought to the attention of a large number of architects, who have been called upon to render public service and donate their time and money as officers and workers in sociological endeavors such as Unemployment and Fund Raising Committees, the necessity of acquiring a working knowledge of statements, budgets, costs, and management problems in general.

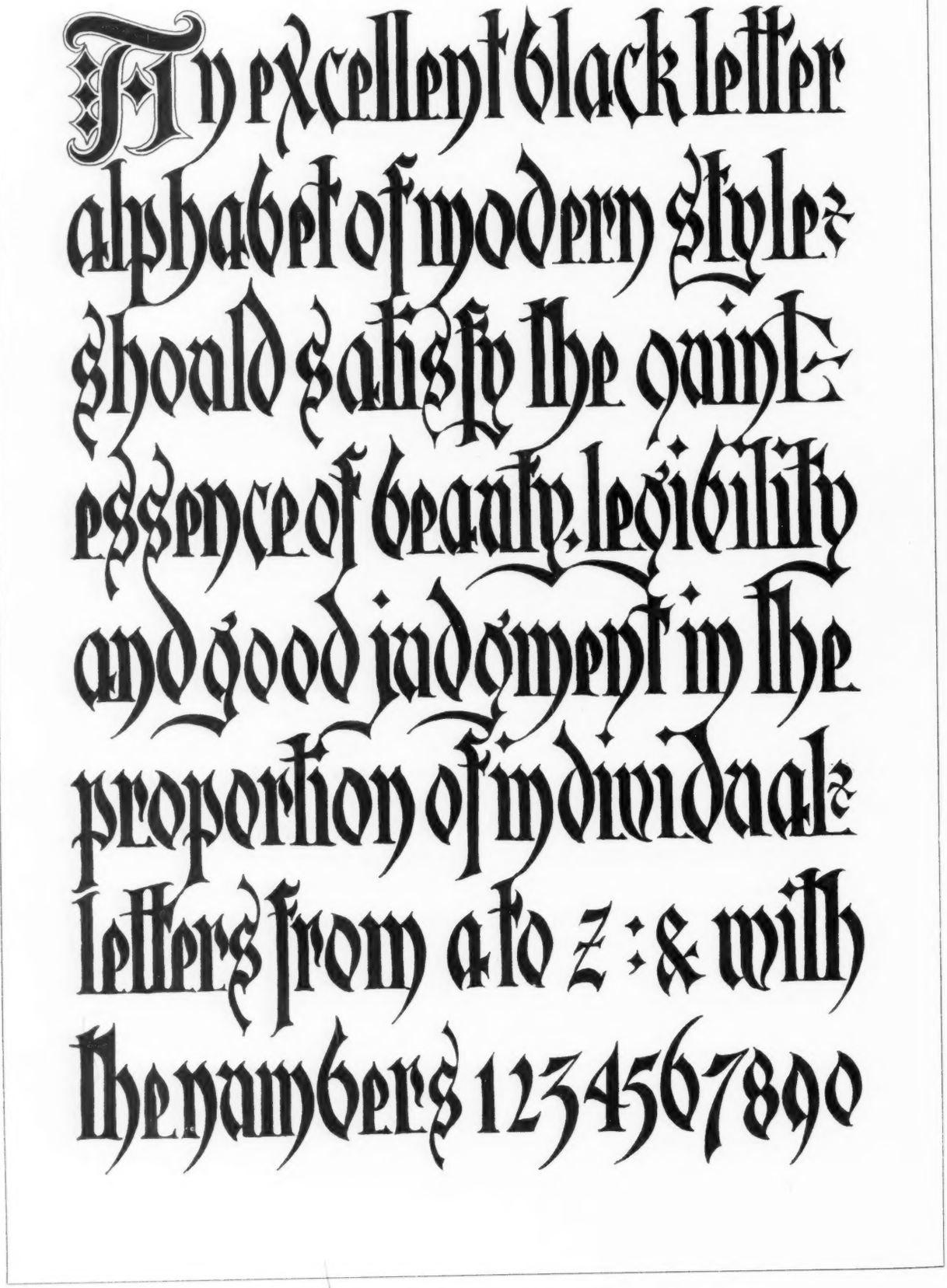
Setting the house in order involves planning along certain definite lines with an end toward the elimination of waste of both money and time, resulting in the utmost profit and utilization of history of experience. Naturally, the size of the plan should depend upon the size of the office. It is obviously ridiculous to "fit the wagon to the wheel." The aim must be toward evolving a system of office accounting and management which will be flexible and will allow for a free increase of capacity.

For the purpose of disclosing one of the most patent defects in the present-day methods, let the architect ask himself the following questions: 1. How much did I actually earn from my last commission? 2. Did I apply any of my general overhead or burden against the profits on that commission? 3. Did I figure in the time it took me to close the sale of the commission? 4. Could I have increased my profits and yet maintain the same degree of efficiency had I known during the course of the work the amount of overhead going into the commission? In all probability, the answer to all except the last question is "No."

The architect who fails to make proper provision for the demon overhead is only fooling himself. Not only must he fight against it (and surely, before a fight can begin, he must know of the existence and nature of the enemy) but having reduced the demon to a minimum he must see to its precise allocation.

Even in the case of the man who maintains his office in his home, the need for a proper consideration of burden and its application to the specific job is of prime importance. To this type of practitioner it becomes an absolute necessity to apply part of the cost of maintaining that home just as if it were his regular business office. Not only is this a proper viewpoint from the standpoint of Income Taxes, but it will result in an ability to maintain a degree of equilibrium at that time when the residence facilities are outgrown.

While the question of overhead with respect to both its curtailment and proper distribution is of vital import, it is certainly not to be construed as being the millennium or all that is necessary to "put the house in order." To apply some of the principles set forth above is merely to scratch the surface of clean-cut management. But, at least a new field of thought will have entered the office portals.


An excellent black letter
alphabet of modern style
should satisfy the quint-
essence of beauty, legibility
and good judgment in the
proportion of individual
letters from a to z: & with
the numbers 1234567890

BLACKLETTER DESIGN BY OLIVER WHITWELL WILSON

Comparative Details—Group 8
Interior Woodwork

Prepared for Pencil Points by Courtesy of the New York Architects' Emergency Unemployment Committee

Drawings by Roger Garland from Data Supplied by the Architects

THE ARCHITECTS
whose details are shown on this and the succeeding pages are as follows:

ROGER H. BULLARD
EVANS, MOORE & WOODBRIDGE
HOWARD & FRENAYE
HYDE & SHEPHERD
WALTER BRADNEE KIRBY
MERRILL, HUMBLE & TAYLOR

DETAILS PREVIOUSLY PUBLISHED

Dormers	October, 1932
Fences and Gates	November, 1932
Radiator Enclosures	December, 1932
Second Story Overhangs	January, 1933
Fireplaces	February, 1933
Door Hoods	March, 1933
Chimneys	April, 1933

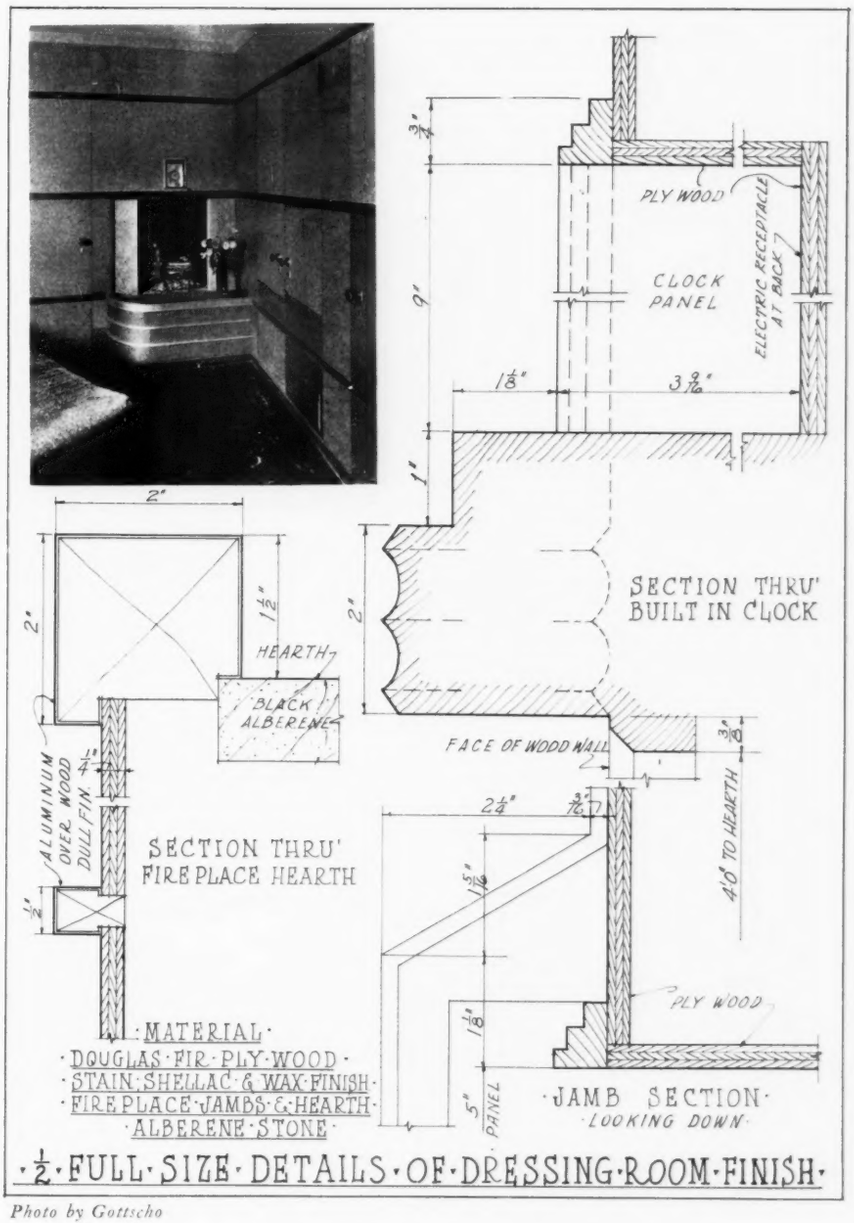
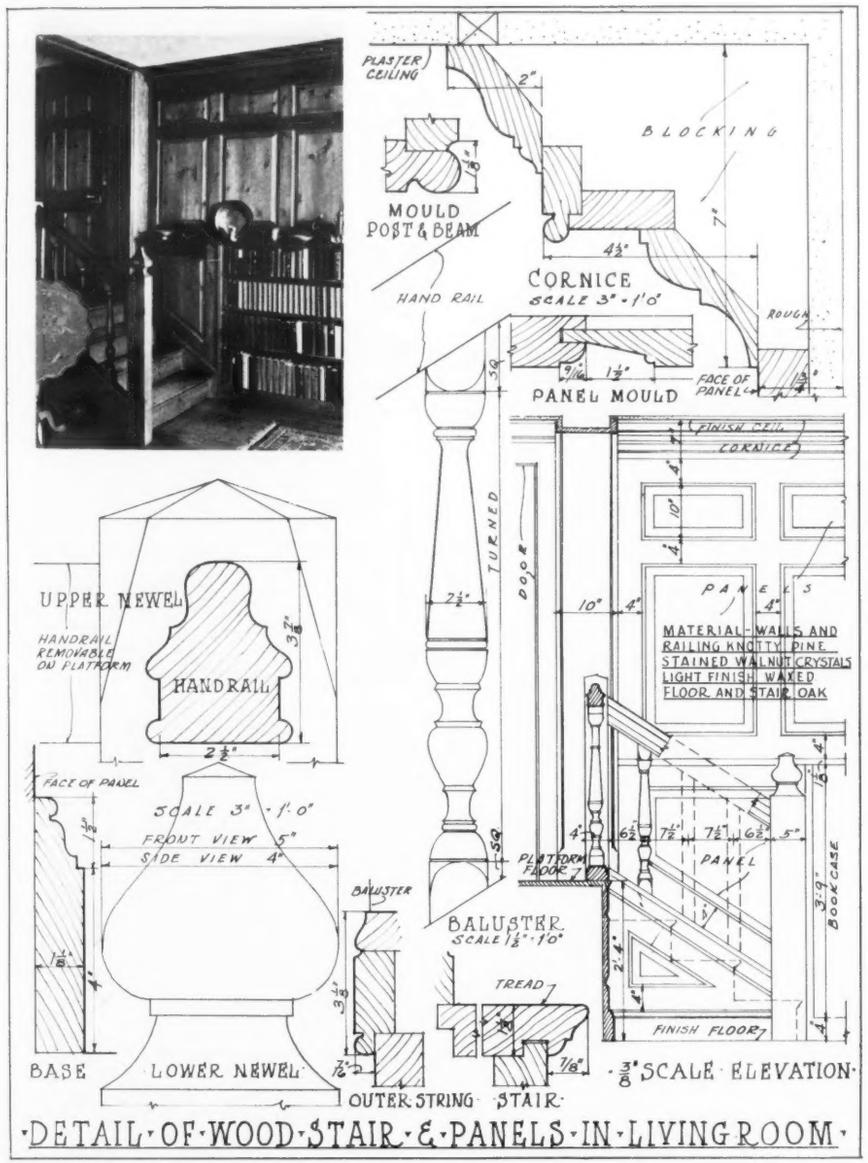


Photo by Gottscho

RESIDENCE OF H. W. HUBER, ESQ., RED BANK, NEW JERSEY
Howard and Frenaye, Architects

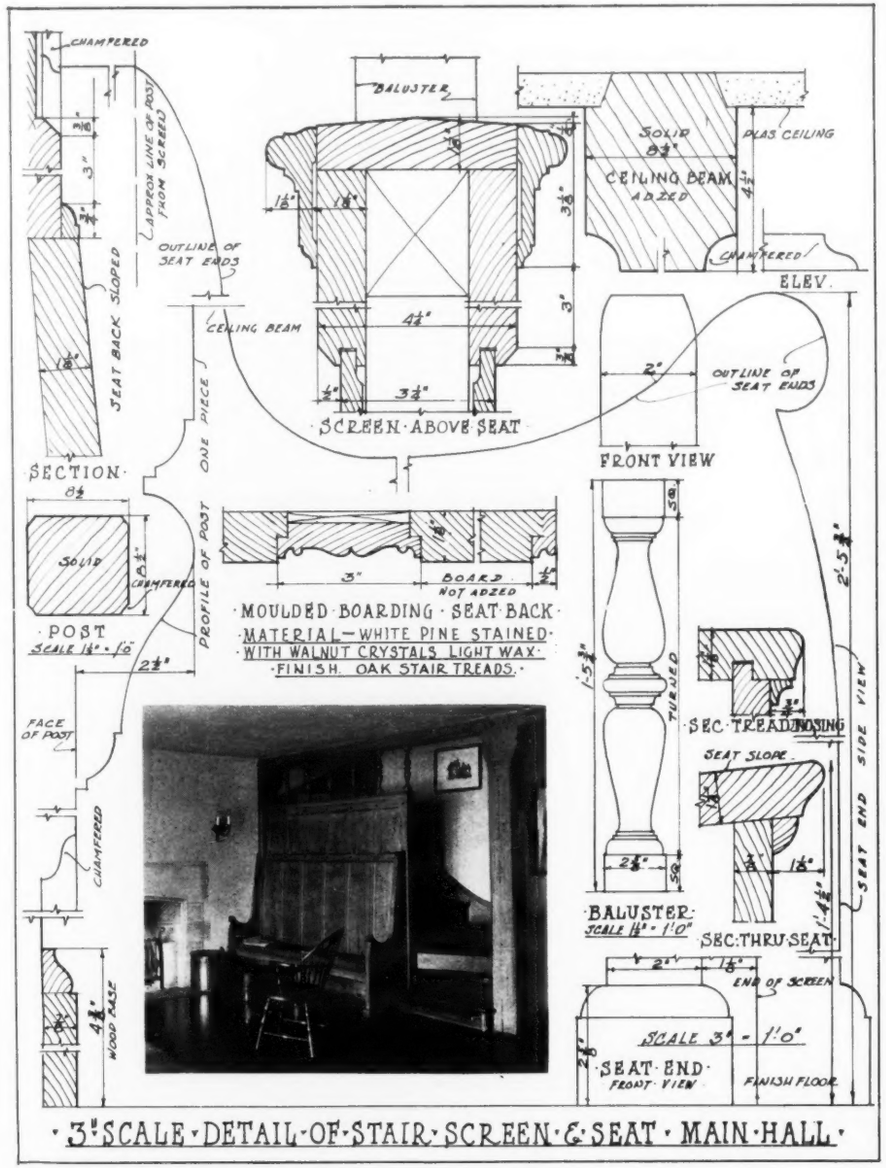


DETAIL OF WOOD STAIR & PANELS IN LIVING ROOM

Photo by Van Anda

RESIDENCE OF ARTHUR C. SMITH, ESQ., GREENWICH, CONNECTICUT

Evans, Moore and Woodbridge, Architects



3" SCALE DETAIL OF STAIR SCREEN & SEAT MAIN HALL

Photo by Van Anda

OAKLAND GOLF CLUB, BAYSIDE, LONG ISLAND, NEW YORK

Roger H. Bullard, Architect

Evans, Moore and Woodbridge, Architects

Roger H. Bullard, Architect

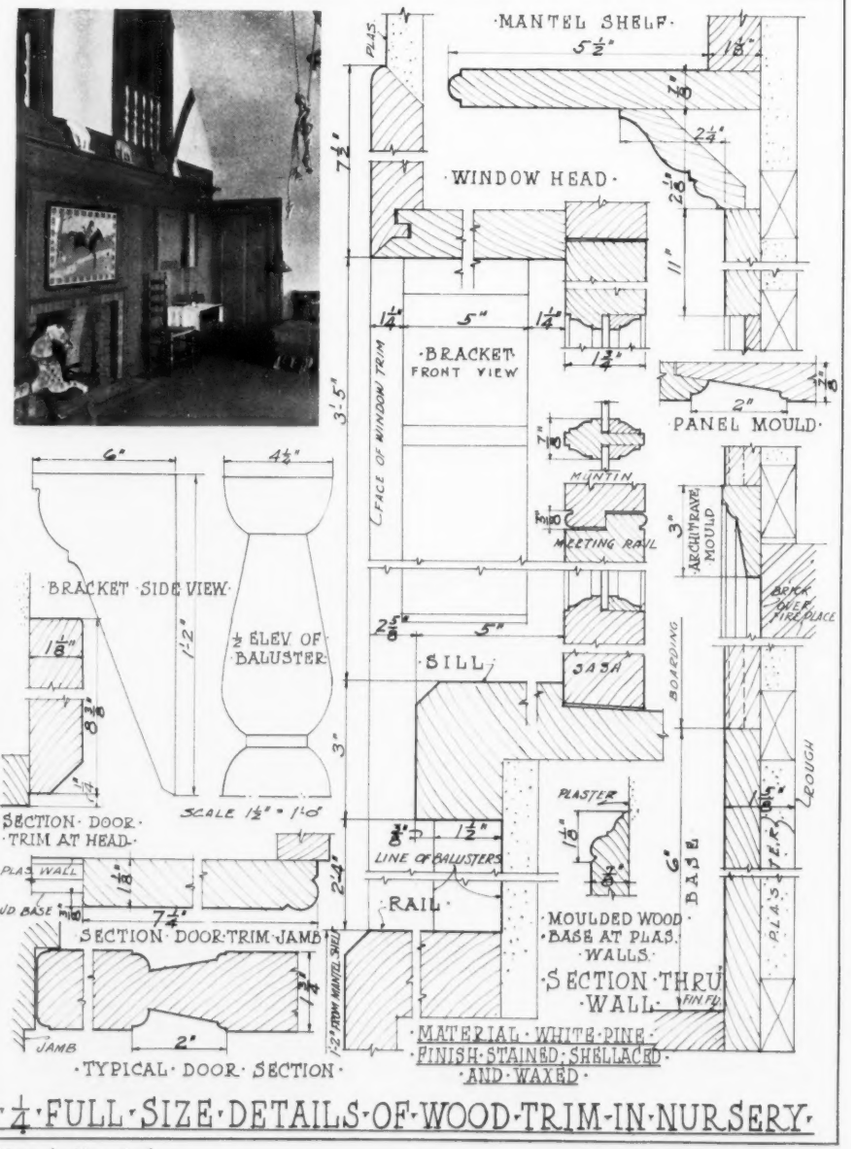


Photo by Van Anda

RESIDENCE OF HENRY A. RUDKIN, ESQ., FAIRFIELD, CONNECTICUT

Walter Bradnee Kirby, Architect

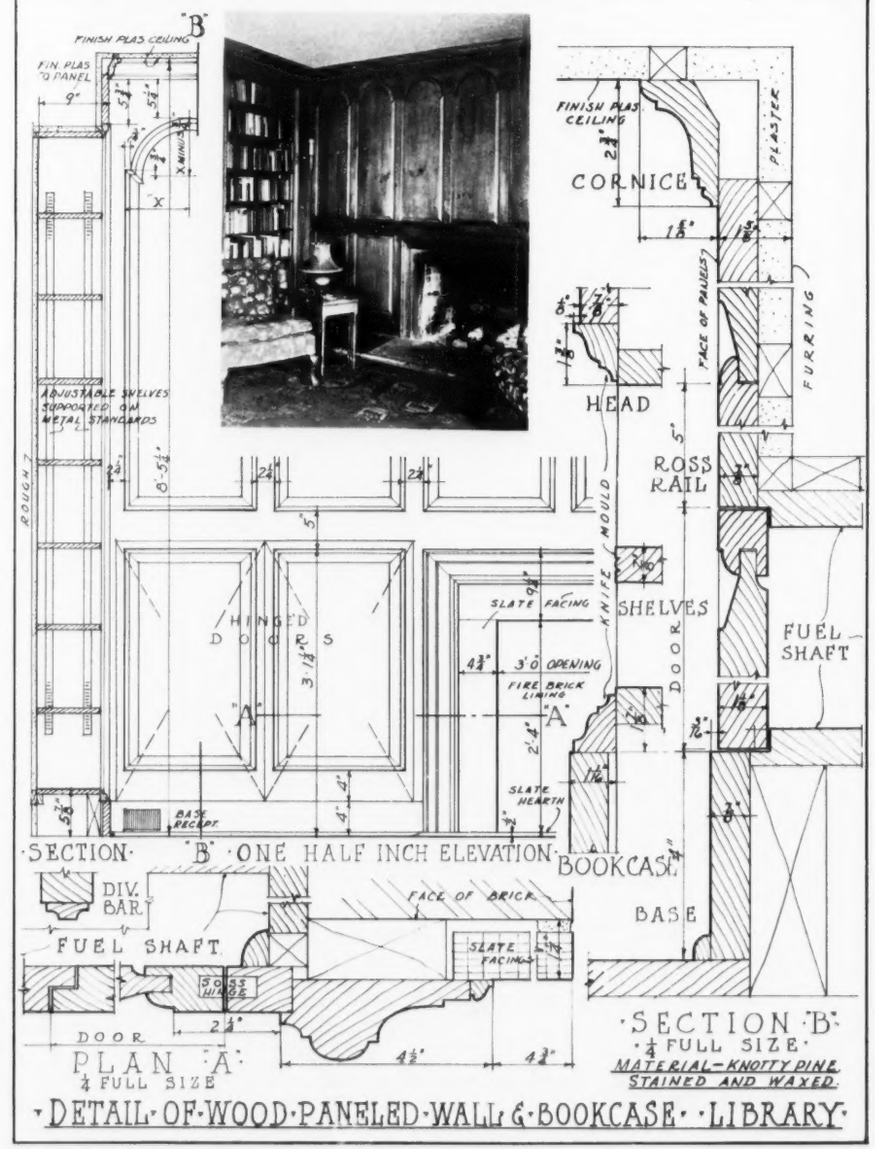


Photo by Van Anda

RESIDENCE OF KARL MOSER, ESQ., STAMFORD, CONNECTICUT

Merrill, Humble and Taylor, Architects

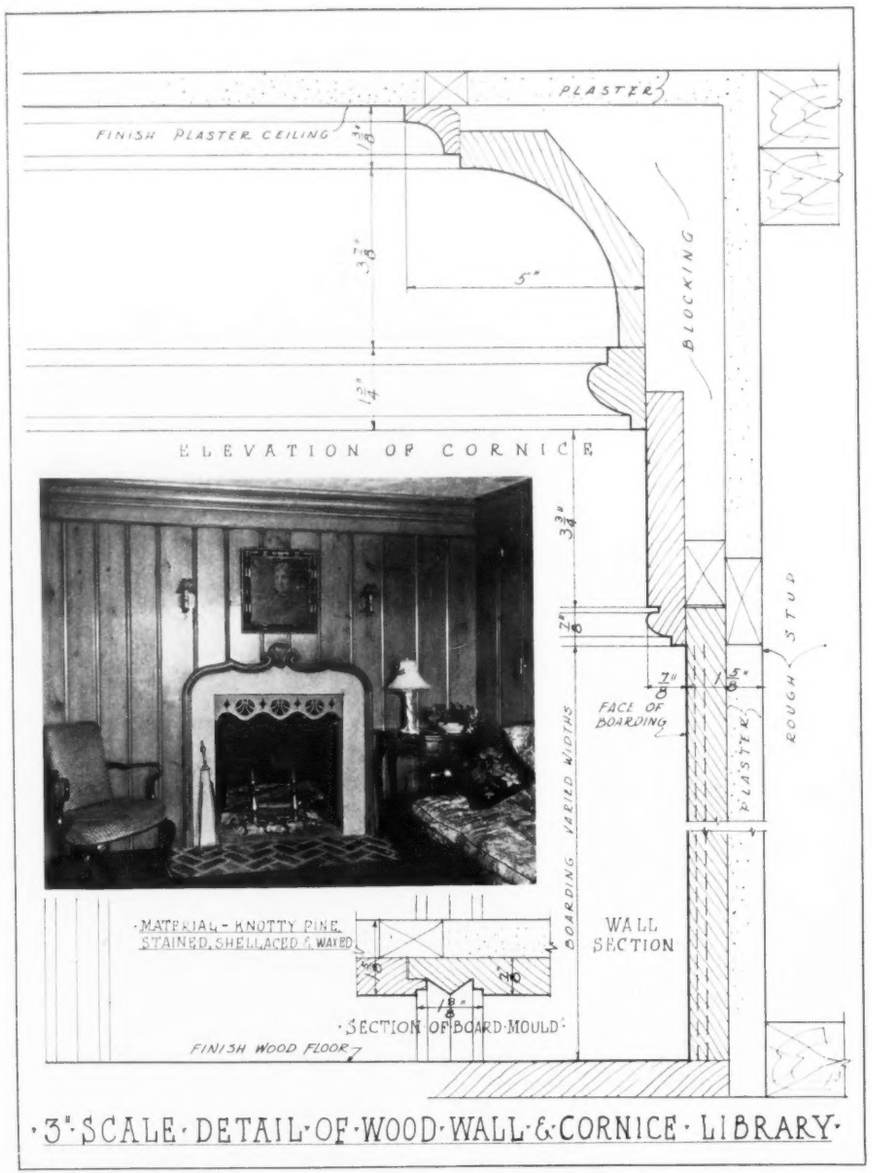


Photo by Gottscho

RESIDENCE OF H. W. HUBER, ESQ., RED BANK, NEW JERSEY

Howard and Frenaye, Architects

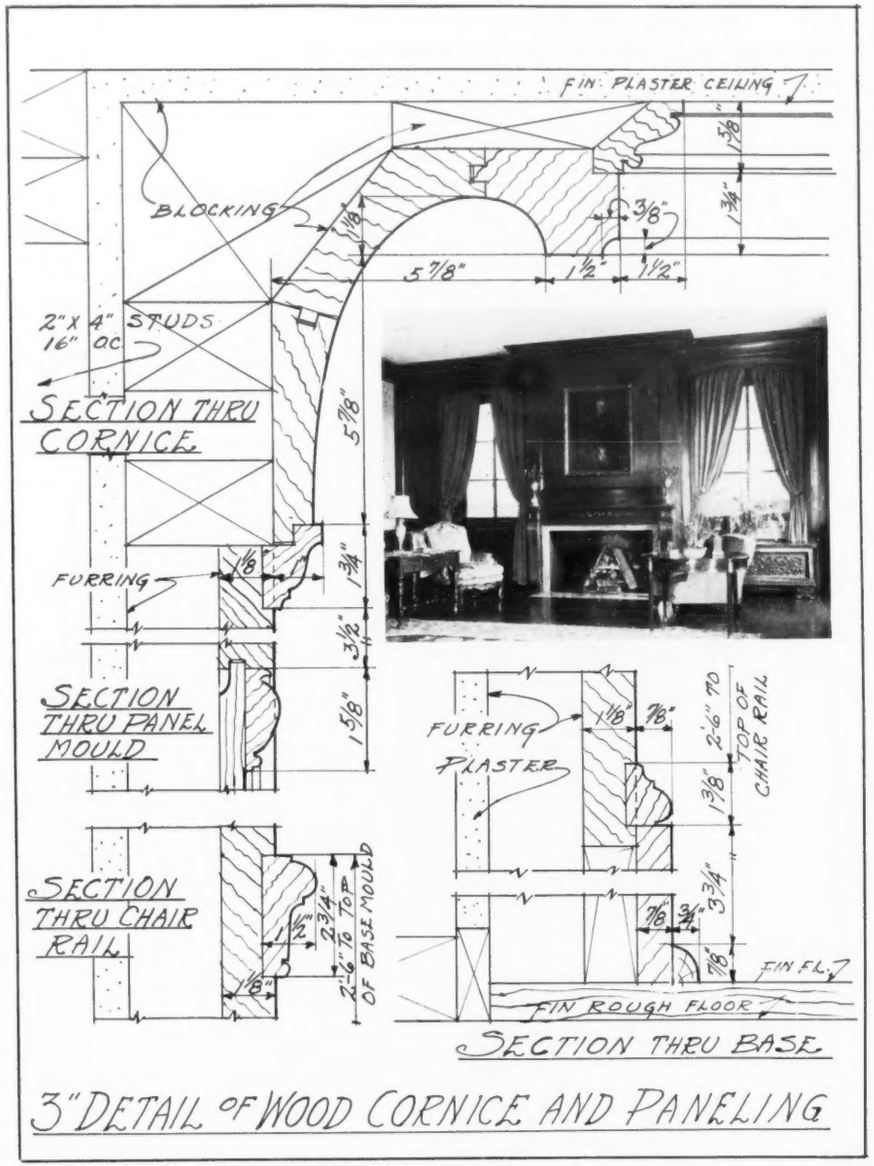


Photo by Tebbs & Knell

RESIDENCE OF F. E. JOHNSON, ESQ., PEAPACK, NEW JERSEY

Hyde and Shepherd, Architects

A Thought on Building Codes

By J. J. Del Bourgo, Consulting Engineer

Practically every city, township, and boro in New Jersey has a building code, the purpose of which is to regulate the practices of construction and the uses of materials so as to insure in all buildings to be erected adequate structural strength, safety against fire hazards and accidents, and proper sanitary conditions. Architects and engineers entrusted with the design of buildings and structures are required to conform to the building code of the locality in which such buildings and structures are to be built, and Building Department officials are expected to see that plans filed do so conform.

There can be no question that such regulation of building practice is not only desirable but necessary. There can be no question that a building code, in order to serve best the welfare of the community, must be drafted with extreme care by competent persons and must provide for periodical revisions.

A building code must be drafted so that no materials shall be favored for the benefit of their manufacturers or other interested parties. Unfortunately, however, we can not prevent manufacturers or interests seeking privileges from offering and lobbying for revisions to local building codes which may on the surface appear beneficial to the community but which are calculated to restrict the business of competitors supplying equally good or better materials. There is no objection against a manufacturer proposing a material which is both safe and economical and endeavoring to have the Building Code favor it, if such a favor will promote the welfare of the community. But the motive of many a manufacturer or industry in lobbying is to advance its own business, the welfare of the community being of minor importance.

The preparation of a suitable building code is very expensive, requiring the employment of experts and much clerical work, and often small communities, not seeing their way clear to go to such an expense, are apt to welcome offers of codes and provisions gratuitously drawn up by interested parties. This is a dangerous practice; nevertheless, it is done; and the authors of these codes and provisions are regarded as public benefactors. It has resulted in the inclusion in different building codes of a variety of regulatory provisions the nature of which was determined by the influence the different privilege seekers in the different localities were able to exert. It has resulted in a different building code for each community, much to the confusion of architects and engineers.

A complete and exhaustive comparison of all the building codes in New Jersey together with an analysis of their provisions is a task that would reveal many interesting things about them, but such a study is laborious and expensive and beyond the scope of this short article. In the accompanying table, however, a few of the Building Codes were taken at random and a few of the provisions in those building codes, also taken at random, were collected together. This table shows, firstly, that there are considerable disparities between the different

City or Town	Direct Compression Longleaf Yellow Pine Lbs. per sq. in.		Compression in Steel Columns Lbs. per sq. in.	Live Load for Flat Roof Lbs. per sq. ft.	Ultimate Tensile Strength of Structural Steel Lbs. per. sq. in.	Base of Retaining Wall	Extreme Fiber Stress in 1:2:4 Concrete Beams Lbs. per. sq. in.	
	With Grain	Across Grain					Steel	Concrete
Newark	1200	300	$1 + \frac{18{,}000}{\frac{L^2}{18{,}000\ r^2}}$	40	Conform to Specifications of American Society for Testing Materials	¼ of height	18,000	650
Hackensack	No provision		No provision	No provision	54,000 to 64,000	No provision	No provision	
Belleville	To be determined by Building Inspector		To be determined by Building Inspector	To be determined by Building Inspector	No specification	No provision	To be determined by Building Inspector	
Plainfield	1600	1000	$16{,}000 - 55\frac{L}{r}$	No provision	55,000 to 65,000	No provision	16,000	700
Red Bank	Such size as will safely carry the weight imposed on them		Such size as will safely carry the weight imposed on them	50	No specification for structural steel	No provision	Stresses recommended by American Society of Civil Engineers	
East Orange	900 to 1200	300 to 350	$16{,}000 - 70\frac{L}{r}$	50	55,000 to 65,000	No provision	16,000	650

codes and, secondly, that a number of codes are altogether lacking in important provisions. It must be understood that this table is no more than a drop in a bucket of revelations; a more thorough study would undoubtedly show more and greater disparities and more omissions.

Compare, for example, the allowable compressive stresses across the grain for Longleaf Yellow Pine. In Newark it is 300 lbs. per square inch; in Plainfield it is 1000 lbs. per square inch; in East Orange it is 300 to 350 lbs. per square inch; and in the other municipalities compared there is no provision, except that in Belleville the stress is to be determined by the Building Inspector. A glance at these figures is sufficient to convince one that something is wrong; either the Plainfield stress is unsafe, or the Newark and East Orange stresses are too low. The stress recommended by the Southern Pine Association in the *Southern Pine Manual, 1927*, page 139, is 250 to 375 lbs. per square inch, indicating that the Plainfield stress is too high. This may be an inducement to use timber instead of steel wherever possible.

Needless to say, where there is no provision at all, the designer is under a great difficulty, as in each case he must ask the Building Department officials what stresses he may use, and the latter are in a position to allow some engineers higher stresses than they allow others.

It is not necessary to analyze the other disparities shown in the table, as remarks similar to the above apply to them all. It is, however, pertinent to call attention to the allowable roof loads in Newark and Red Bank. The amount of probable snowfall in these cities is about the same; if there is any difference, we would expect it to be greater in Newark, because Newark is situated north of Red Bank; yet we find that 40 lbs. per square foot is sufficient for Newark, while Red Bank requires 50 lbs.

Another criticism of our building codes is that in them there are many unnecessary or irrelevant provisions. Let us cite page 156 of the Building Code of Newark:

> "Doors affording ingress or egress, as well as any entrance or exits or openings, shall not be obscured by curtains or draperies, and no door shall be locked or fastened at any time during the time such building is open to the public."

The hanging of draperies and the opening and closing of doors is purely a police regulation affecting the safety of the public. It has no place in the Building Code, and the Bureau of Buildings cannot enforce it without the aid of the Police Department.

Another example is the following, also from the Building Code of Newark, page 179:

> "I. No person shall at any time place any incumbrance of any kind whatsoever before or upon any fire escape, balcony or stairway.
>
> "II. It shall be the duty of every fireman and policeman who shall discover any fire escape, balcony or stairway of any fire escape incumbered in any way, to forthwith report the same to the commanding officer of his company or precinct, and such commanding officer shall forthwith cause the occupant of the premises or apartment to which said fire escape, balcony or stairway is attached or for whom the same is provided, to be notified, either verbally, or in writing, to remove such incumbrance and keep the same clear.
>
> "III. If said notice shall not be complied with by the removal forthwith, of such incumbrances, and keeping said fire escape, balcony or stairway free from incumbrances, then it shall be the duty of said commanding officers to apply to the nearest police magistrate for a warrant for the arrest of the occupant or occupants of the said premises or apartment of which the fire escape forms a part, and the said parties shall be brought before the said magistrate, as for a misdemeanor; and, on conviction, the occupant or occupants of the said premises or apartment shall be fined not more than ten (10) dollars for each offense, or may be imprisoned not to exceed ten (10) days, or both, in the discretion of the court."

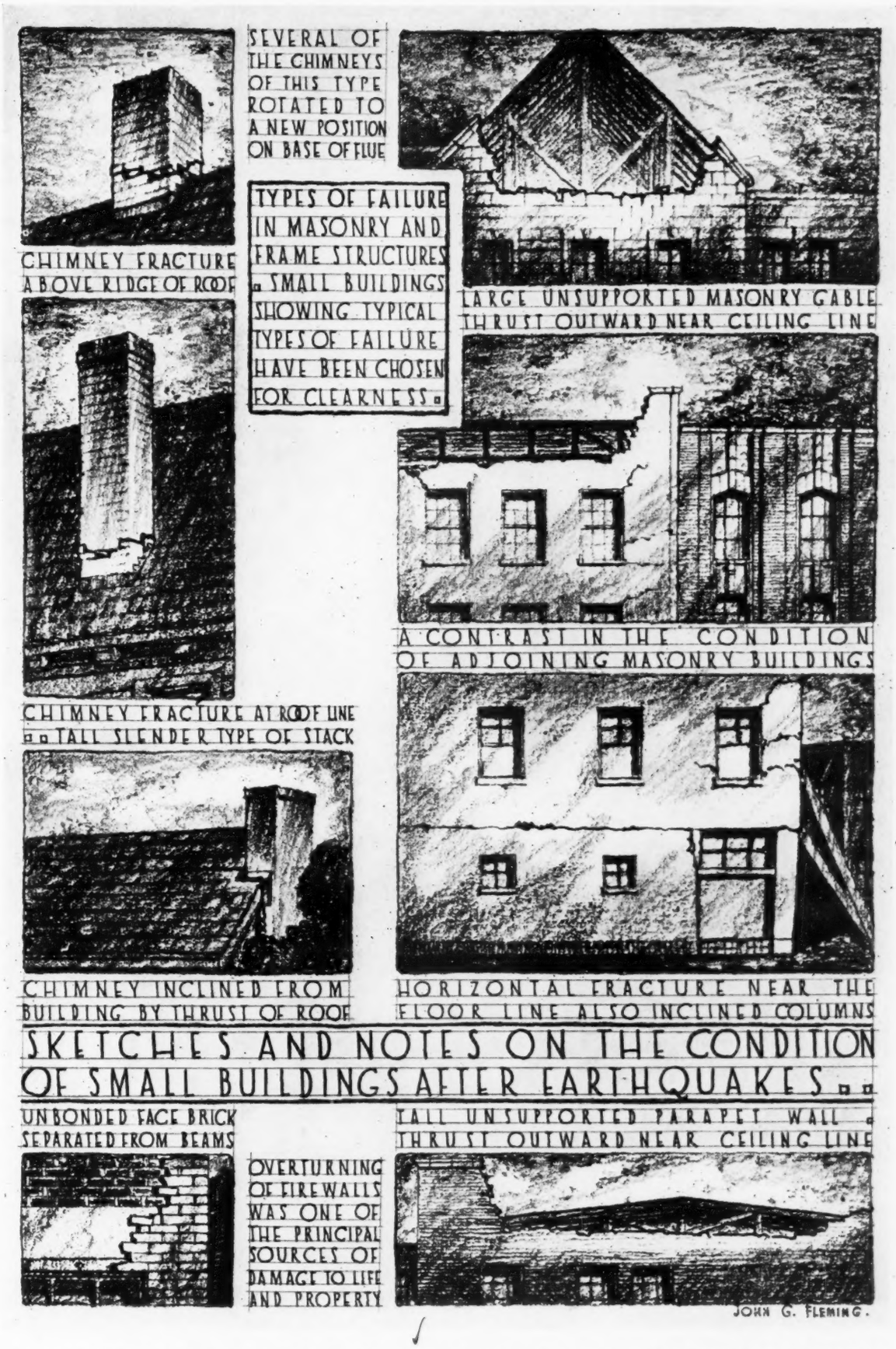
This provision is incorporated in many of our building codes probably because the New York City code has it. In fact, except for a few changes in phraseology, the above section is a copy of §162 of the New York City Building Code as amended to January 1, 1925. It is significant that here the impossibility of enforcing the article without the aid of the Police or Fire Department is recognized and the Police procedure in case of violation is outlined in detail, although it is not at all clear what the Building Department has to do with the placing of incumbrances on the fire escape of a building after it is occupied.

It is hardly necessary to give any more examples of the defects in general of our building codes to show that there is much room for improvement. Four desirable attributes of building codes are now lacking and should be sought: uniformity; consistency with recommended practices; adequacy; and the elimination of irrelevant provisions. In seeking all these advantages, it must be remembered that now more than ever revision of building regulations must be done without undue expense.

A State Building Code would economically secure for us all these advantages. One building code, applicable throughout the state, inevitably will make regulations and practices uniform. One building code, in which the recommended practices and specifications of recognized national societies and committees are considered, will secure consistency with them. One building code, in which all the necessary and desirable features of all our numerous codes are included, will enable us to formulate an adequate catalog of regulations, instead of the numerous incomplete ones that we now have. One building code, in which irrelevant provisions are carefully omitted, will give us as brief and as handy a code as can be drafted. Lastly, one building code for the whole state will save so much duplication of work that the most authoritative experts can be employed, and it will still cost the taxpayers of the state less than the numerous codes now in use. According to the Public Record Office publication, *Directory of County and Municipal Officials, Year 1933*, there were in New Jersey on January 1, 1933, 565 municipalities. Most of these, probably as many as 500, have building codes of their own. If each of these municipalities would contribute only a portion of what they now spend on building codes to a State Bureau, there would be ample funds for the production of a State Building Code.

It is true that there are some provisions applicable in one locality that may not be so good for another. But within a state provisions not generally applicable are only those of minor importance. A State Building Code may well be written to take care of these provisions by zoning or by providing that special regulations affecting only a small area and not inconsistent with the State regulations may be passed locally and approved by the State.

This article was written with particular reference to New Jersey, but there is hardly anything said here that does not apply with as much force in other states. It may even be possible to formulate a Federal Building Code and have uniform regulations throughout the United States.

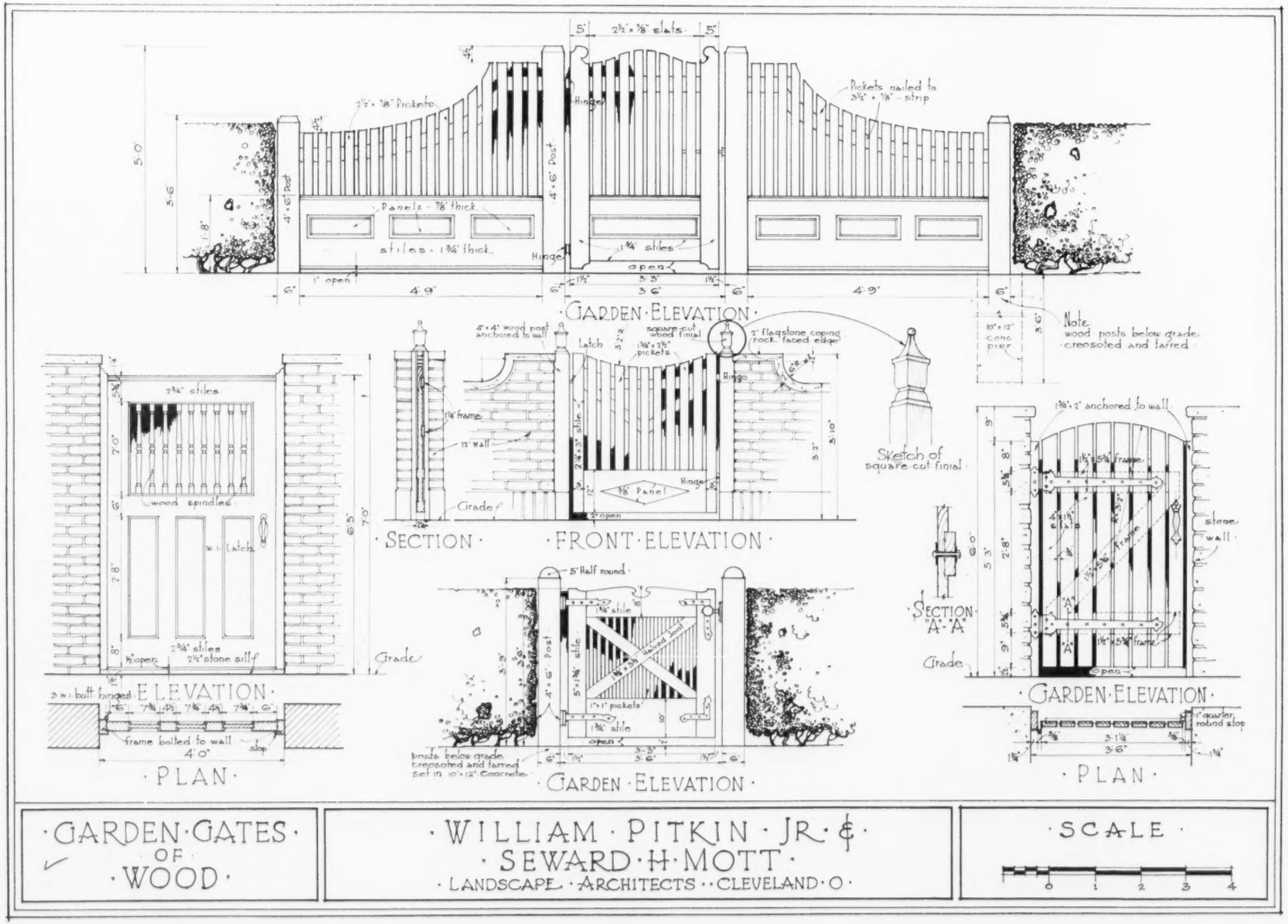

SEVERAL OF THE CHIMNEYS OF THIS TYPE ROTATED TO A NEW POSITION ON BASE OF FLUE
CHIMNEY FRACTURE ABOVE RIDGE OF ROOF
TYPES OF FAILURE IN MASONRY AND FRAME STRUCTURES ▫ SMALL BUILDINGS SHOWING TYPICAL TYPES OF FAILURE HAVE BEEN CHOSEN FOR CLEARNESS ▫
LARGE UNSUPPORTED MASONRY GABLE THRUST OUTWARD NEAR CEILING LINE
A CONTRAST IN THE CONDITION OF ADJOINING MASONRY BUILDINGS
CHIMNEY FRACTURE AT ROOF LINE ▫▫ TALL SLENDER TYPE OF STACK
CHIMNEY INCLINED FROM BUILDING BY THRUST OF ROOF
HORIZONTAL FRACTURE NEAR THE FLOOR LINE ALSO INCLINED COLUMNS
SKETCHES AND NOTES ON THE CONDITION OF SMALL BUILDINGS AFTER EARTHQUAKES ▫▫
UNBONDED FACE BRICK SEPARATED FROM BEAMS
OVERTURNING OF FIREWALLS WAS ONE OF THE PRINCIPAL SOURCES OF DAMAGE TO LIFE AND PROPERTY
TALL UNSUPPORTED PARAPET WALL ▫ THRUST OUTWARD NEAR CEILING LINE
JOHN G. FLEMING.

ARCHITECTURAL NOTES ON THE RECENT EARTHQUAKE, BY JOHN G. FLEMING OF GLENDALE, CALIFORNIA

FROM A "SMOOCH" RENDERING BY J. J. FISH

UNITED STATES POST OFFICE, COURT HOUSE, AND CUSTOM HOUSE AT ALBANY, NEW YORK

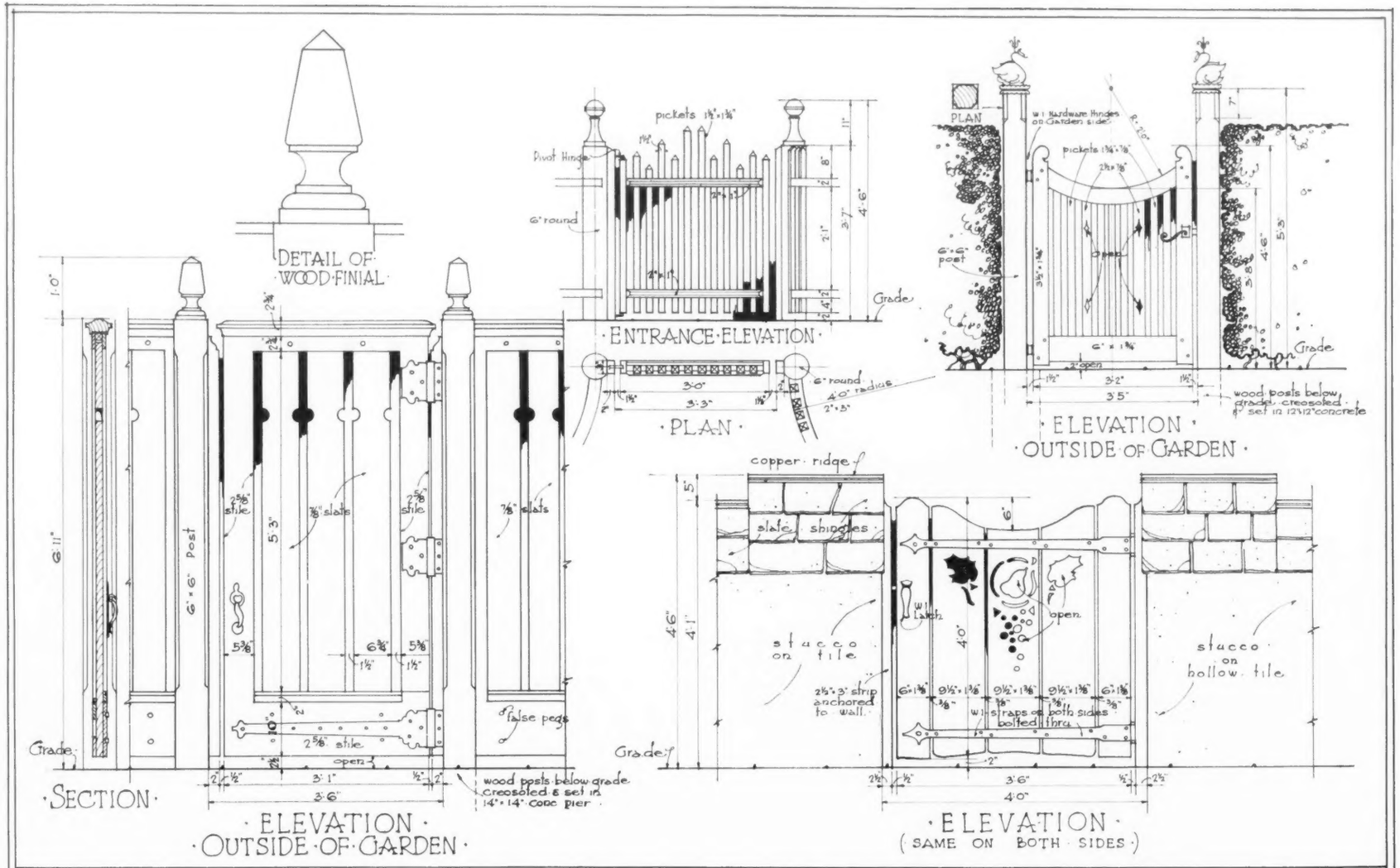
Gander, Gander, and Gander, Architects—Norman R. Sturgis, Associate—Electus D. Litchfield, Consulting Architect



GARDEN GATES OF WOOD

WILLIAM PITKIN JR. & SEWARD H. MOTT
LANDSCAPE ARCHITECTS CLEVELAND O.

SCALE
0 1 2 3 4


DETAIL OF WOOD FINIAL
ENTRANCE ELEVATION
PLAN
ELEVATION OUTSIDE OF GARDEN
SECTION
ELEVATION OUTSIDE OF GARDEN
ELEVATION (SAME ON BOTH SIDES)
GARDEN GATES OF WOOD
WILLIAM PITKIN JR. & SEWARD H. MOTT
LANDSCAPE ARCHITECTS CLEVELAND O.
SCALE

PART OF MURAL DECORATIONS BY D. PUTNAM BRINLEY—ILLUSTRATING THE STORY OF HUCKLEBERRY FINN
THIS PANEL BEARS THE INSCRIPTION, "BY THE LIVING JINGO, HERE LIES THE BAG OF GOLD ON HIS BREAST!"

Murals for Business Diversion

Office Building of the Metropolitan Life Insurance Company, Harvey Wiley Corbett and D. Everett Waid, Associated Architects

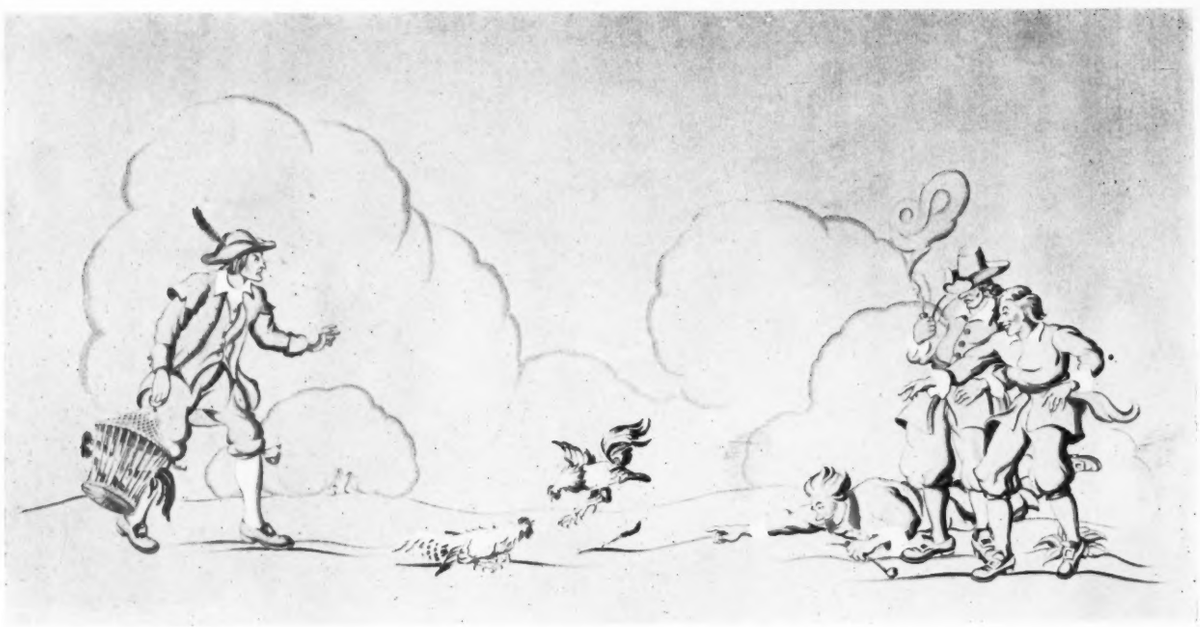
By Sylvia Starr Wertz

At high noon when office dwellers heave sighs of relief, cast off the tension of working hours and disperse for lunch, they are actually going through a period which will appreciably influence the rest of their day. It is now generally conceded that a maximum of business capacity is realized from each employee only when working conditions are the most favorable that can be created, so that the most intricate air conditioning and special lighting systems are taken simply as a matter of general equipment in today's large office buildings. But what of the all too brief period at mid-day when workers should not only be reviving their bodies with food, but, of even more import, refreshing their minds as well? If they must hurry off to battle for room and service in crowded restaurants, to return tired and irritated, obviously the office has lost a certain precious measure of their efficiency. Realizing this, big modern concerns are more and more often installing their own lunch rooms and seeing to it that these are not only convenient but thoroughly attractive and satisfying from all angles.

Some of these concerns have the equivalent of the entire population of a good-sized little city to provide for; as an example—for the 13,000 employees in the home office group of the Metropolitan Life Insurance Company's buildings, kitchen facilities have been installed in the newly completed addition (which, incidentally, covers the area of some twenty-three acres of floor space!) and these kitchen facilities are capable of feeding the 13,000 people during a two-hour period!

For reasons too varied and complex to be gone into here it was decided to locate these kitchens with their adjacent dining rooms in the second and third basements; of course the difficulties of windowless rooms are easily counteracted by air conditioning and special lighting systems. But the remaining handicap of blank walls then became the most considerable problem because windowless enclosures, wherein natural perspectives are lacking, suggest the feeling of oppression—a sense of being shut up—the very opposite to the experience of mental and physical release, which is now believed may be of even greater psychological worth to the diners than the actual nutritive value of the lunch hour. Since one of the surest aids to creating the desirable illusion of release is a generous perspective of pleasant vistas, the simulation of these became the objective which the architects, D. Everett Waid and Harvey Wiley Corbett, felt could best be achieved by murals. But these must necessarily be of a special character, since the meaningless forms of conventionalized patterns commonly used lack that personal significance differentiating mere decoration from stimulative Art.

Mr. Corbett explained when asked some of the determining factors in their decision: "We felt it highly desir-



"THE COCKFIGHT"—MURAL BY NICHOLAS PAVLOFF FOR NEW HOME OFFICE BUILDING OF THE METROPOLITAN LIFE INSURANCE COMPANY

D. EVERETT WAID AND HARVEY WILEY CORBETT, ASSOCIATED ARCHITECTS

able to offer the diners something entirely different from the usual routine of business, something perhaps suggestive of the romantic and imaginative literary themes of early American flavor which would both interest and amuse while lending a cultural significance somewhat at variance with the usual daily life of the present time." He also added that the possibilities for the proper enhancement of purely commercial areas with a type of mural decoration leaving large spaces unadorned (as covering the whole with solid painting would prove too ponderous) bring into play all the skill, originality and genius of the artist, opening a field for the muralist, of much wider scope than present opportunities allow.

As a first step toward the arrangements for the murals the architects called in as their advisor one particularly fitted to study such situations in regard to their peculiar demands. Dr. Humphrey Burr Alexander, of the University of the State of Nebraska, has evolved a unique profession. It is his business to delve into the particular decorative needs of buildings, arrange these in their logical orders, and present his findings in a synopsis or sort of glorified "Theme Song" for the artists to embroider. His concisely set forth treatises were, no doubt, considerable factors in the success of the famous Nebraska State Capitol sculptures, and his papers on the project under discussion are as illuminating as short essays on psychology. He says: "The murals do not call for a single tale or a closely connected theme but for loose strung fantasies, which should be at once amusing, worthy of attention without commanding it, and outdoor in atmosphere. The conditions are admirably met by Washington Irving's New York Tales, such as, Rip Van Winkle, The Legend of Sleepy Hollow, Knickerbocker's History of New York. These tales are full of amusing pictures, most of them very familiar; they are outdoor in treatment and remote in time; they have the advantage also of being local in character, and native in a sense rare in America. The material is sufficient for the whole area, and varied enough not to be tiring. In the handling it should not be realistic; there should be no painter's illusions of natural landscape; yet at the same time the suggestion of the outdoor setting should be vivid. A painter's style—half sketch or cartoon—a play, rather than a composition of colors, all this will make for a kind of enchantment which should be the aim of this decoration."

To fill the whole space covered by canvas (some 45,000 sq. ft.) would be not only an almost impossibly exhaustive task but also entirely too ponderous, as Mr. Corbett has noted, for this is an inconceivably large area when seen in numbers alone; only when we imagine it applied to an eight-foot wall do we begin to visualize it as stretching well over a mile in length! Specially large frames had to be constructed on which to stretch the canvas which also was specially made; for shuttles weaving heavy linen strands across a space of twenty feet are necessarily slow and unwieldy affairs and there are not many of them in existence. The total mural area is something like 23,000 sq. ft., the largest of its kind in the world, so it is readily understandable that the vastness of this expanse practically precluded one artist handling it, especially considering the time limit set for its completion (big business being infallibly in a hurry). So the subjects were divided and submitted to a group of artists who, with small scale sketches, competed for the choice of the architects and owners.

Of the men chosen Edward Trumbull includes among his previous work the ceilings of the Chrysler lobby and Graybar Building Concourse in New York City; as well as the murals for the New York Life staff dining rooms. Mr. Trumbull is at present color director at Rockefeller Center. The episodes from the Tale of Rip Van Winkle for the lounge and escalator hall of the Metropolitan's second basement were worked out by Mr. Trumbull in a temporarily vacant fabricating shop for ships (the Groton Iron Works at New London, Conn.) where he had space enough to hang nearly half the canvas at one time which is a great help in determining the proper scale in the relationship of the various groups to one another.

Because this lounge and hall space were not so large as the other sections Mr. Trumbull was able to use the time

honored but time *consuming* "square system," a method of marking the canvas off into squares, corresponding to similar ones drawn over the small scale preliminary sketches, to act as guides in accurately enlarging them to final size. Color was painted on, only to be partially wiped off again, a trick which keeps the pale buff of the background continually showing through in the irregular pattern of the weave in the canvas. Though light, his tones are characteristically rich, and a whimsical fertility of imagination in his treatment of the lovable old reprobate, Rip Van Winkle, is to be felt in every detail. Harold Joachim Kihl was Mr. Trumbull's assistant on this work.

The second largest space of approximately 6,500 sq. ft. was allotted to D. Putnam Brinley. In this, his latest commission, Mr. Brinley was called upon to decorate the lounge and escalator hall of the third basement, which he did with "Scenes from Wild Life" and the Section Heads' dining room for which his subject was "The Adventures of Huckleberry Finn." In the latter, his scheme called for a continuous running pattern of colored lines, the color range voluntarily limited to six tones to preserve a uniform intensity throughout. Since the subject is a homely one hardly admitting of any flights of esthetic fancy, he has simplified his figures almost to symbolism and accentuated their humorous naïveté in an amusingly perspectiveless treatment, well exemplified in the incident which bears the lettered inscription; "The king and the duke got out a couple of long swords made out of oak laths, and begun to practise." Here it is quite evident that all the subjects have been treated in the same plane of space so that one gets a sort of cross section through the water showing the fish swimming about in it and even the sea weed on the bottom. Another amusing trick is evinced by the showing of stars or a moon in the sky to denote a night scene though the colors are just the same as the day scenes but have only clouds in the sky.

To enlarge his small sketches to final size, Mr. Brinley used a sort of magic lantern which, by means of reflectors, enlarges and projects the small designs so that they may be traced off directly onto the canvas, obviously this is a great time saver and makes for absolute accuracy, however, Mr. Brinley was after a special sort of line, so the sketches were projected first onto large sheets of ordinary wrapping paper, traced off and then cut out to form the stencil-like templates through which the final design was blown onto the canvas with an air brush. This produced a line which is clean cut on one side and delicately shaded on the other, giving an almost modernistic and slightly modeled effect, at once novel and well adapted to this particular subject.

The largest space of approximately 12,000 sq. ft., for which the Knickerbocker History of New York furnished the material, was allotted to Nicholas Pavloff.

Especially interesting groups among his panels of vignetted sketches, surrounded by wide margins of undecorated canvas, are the gaily costumed, shrewd visaged Dutchmen watching a cock fight; the "Dutch Wedding Journey," wherein one glimpses a restrained glow of almost Oriental color, probably suggested by early visions of the pomp and glitter that was Old Russia. Again one catches this note in the panel on the winemakers (a timely motif, most feelingly portrayed!), and the grotesque figures on stilts, as well as such quaint touches as the all but unpronounceable Dutch names on the tomb stones in an episode from the Headless Horseman—all these bespeak a careful research into historical folklore and costuming, acceptably veiled with the gay humor pervading the whole of these faintly and inimitably stylized decorations.

To wander through the various rooms with their grand total of over half an acre of decorated canvas which, now that all the stir and clutter of finishing is over with, seems to have been so effortlessly executed and hung, who would imagine that, simply to apply them to the walls, some fifteen (15) tons of white lead mixed with varnish have been consumed. One can only conjecture at the degree of cooperation necessary to produce this suave continuity, which is probably saved from monotony by the wide diversity in temperament and technique of the three artists.

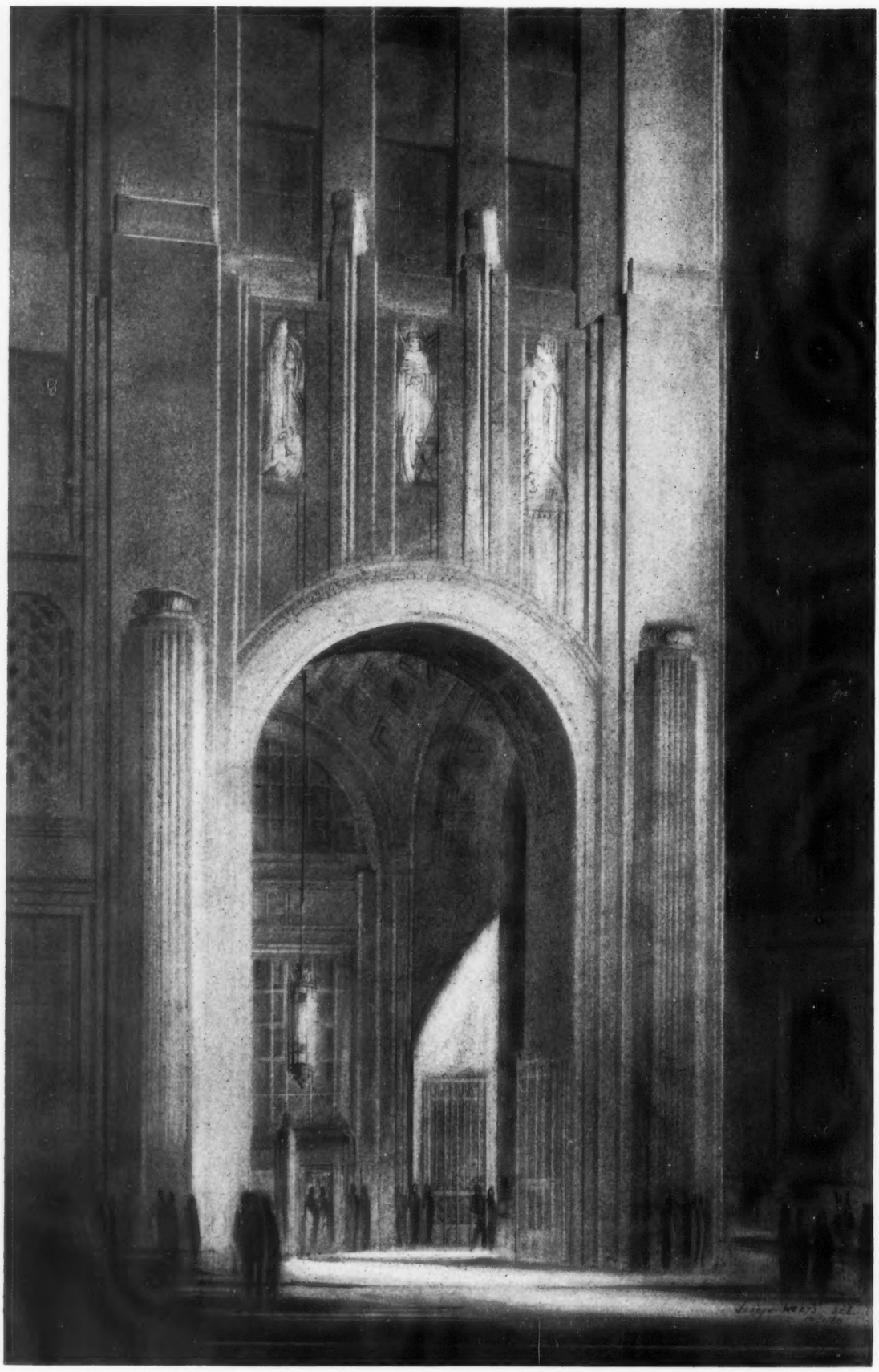
"They fail to recognize Rip Van Winkle"

Detail of "The Gnomes"

TWO OF A SERIES OF THIRTY MURAL DECORATIONS BY EDWARD TRUMBULL ILLUSTRATING THE STORY OF RIP VAN WINKLE

NEW HOME OFFICE BUILDING OF THE METROPOLITAN LIFE INSURANCE COMPANY

D. Everett Waid and Harvey Wiley Corbett, Associated Architects



Size of original, 16" x 24½"

FROM A CHARCOAL RENDERING BY JOSEPH B. WERTZ

ENTRANCE—THE NEW METROPOLITAN LIFE INSURANCE COMPANY BUILDING, NEW YORK

D. Everett Waid and Harvey Wiley Corbett, Associated Architects

Le Brun Traveling Scholarship

The Program and Report of the Jury of Award

The annual competition for the Le Brun Traveling Scholarship of fourteen hundred dollars was conducted by the Committee in the usual manner, the nominations being closed January 15th, 1933, and the drawings received March 17, 1933. The subject of the program was: *A Recreation Center for a Small Community*.

> In a town of 50,000 inhabitants, situated on the east bank of a river, it is proposed to build a Recreation Center and Playground. A large playground has been prepared, with baseball and football fields, tennis courts, a swimming pool and a general playing field. Across the west end of the playground, facing the playground on one side and the river on the other, is to be placed the Recreation Building which forms the subject of this program.
>
> This building is to contain:
>
> A gymnasium covering about 2400 sq. ft. with gallery for spectators, ample dressing rooms and showers, separately arranged for boys and for girls, and with access both from the gymnasium and from the playground; these dressing rooms and showers may be on a basement floor.
>
> An auditorium of about the same size, with a stage for unpretentious dramatic entertainment; a gallery and dressing rooms.
>
> An ample lobby, accessible to both gymnasium and auditorium.
>
> Offices for the director and assistant director.
>
> Adequate toilet facilities for both children and public, which may also be on a basement floor.
>
> A large enclosed terrace or sun-room where children can assemble in bad weather.
>
> Wide open terraces overlooking both the playground on one side and the river on the other.
>
> The architectural treatment should be gay and cheerful. Color may be freely used.

There were 220 candidates, of whom 122 submitted drawings, nearly twice as many as those competing last year. They were examined by the jury consisting of L. M. Franklin, Otto F. Langmann, Oliver Reagan, and Chester Aldrich, Chairman. The jury met on two separate occasions to study the drawings and consider the recommendations of the competitors, and have made the following unanimous awards:

The Prize to Walter T. Stopa, c/o John Holabird, Chicago.

1st Mention to George D. Recher, Chicago.
2nd Mention to Edward A. Pauly, Hamburg, New York.
3rd Mention to Magnus Thompson, Washington, D. C.
4th Mention to Floyd Rible, Los Angeles, Cal.

The level of the drawings was high and the presentation frequently interesting and brilliant, though many of the competitors missed, especially in plan, the character desired and neglected too much the elevation on the playground. The winning design, however, meets the conditions of the problem with an excellent and well organized plan. The different elements are well studied and placed, the entrance admirable, the sun-room especially agreeable, and the lockers well lighted and aired. The dominance of the gymnasium which, after all, is the essential feature of the entire program and the circulation to it, both from the locker space and the lobby, are especially commendable. The elevation, which like many others is treated in a rather commonplace modernistic manner, has, however, a cheerful character, but the presentation of the perspective is perhaps a little inadequate. As a whole, the project speaks well for the ability and resources of its designer.

The design receiving first mention has a good plan, giving excellent light and air. The lobby is exaggerated in size and the character of the perspective somewhat violent.

The second mention, though the plan is contracted and not well organized (the sun-room being especially inadequate), has an attractive elevation and perspective excellently presented.

The plans of the third and fourth mentions are rather too compact and the elevations lack somewhat in charm and distinction. In the fourth mention the sun-room is especially ill-placed, though the plan otherwise shows ability.

Mr. Stopa, the winner of the prize, has the highest recommendations from his sponsor, Mr. Holabird, and seems to be an excellent young man who will profit fully from the opportunities offered by the Scholarship.

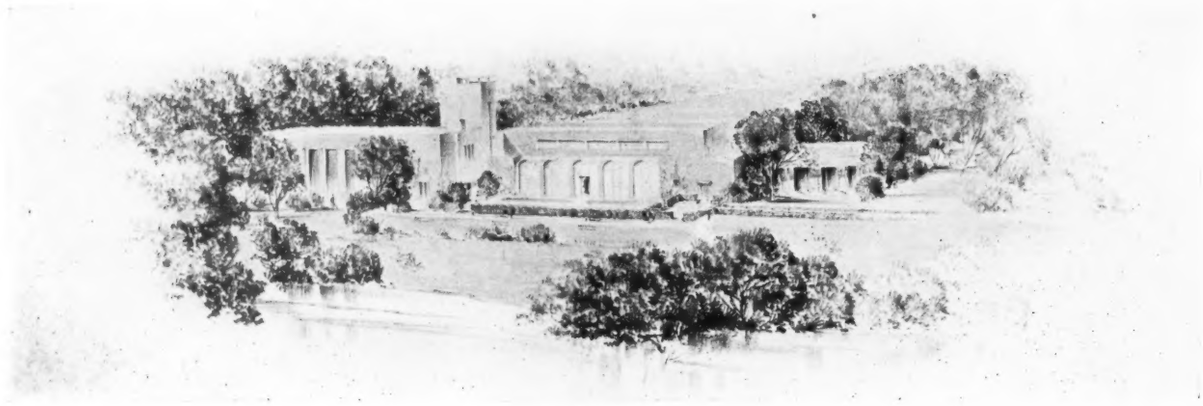
Respectfully submitted,

(*Signed*) L. M. Franklin
Otto F. Langmann
Oliver Reagan
D. Everett Waid
Chester H. Aldrich, *Chairman*

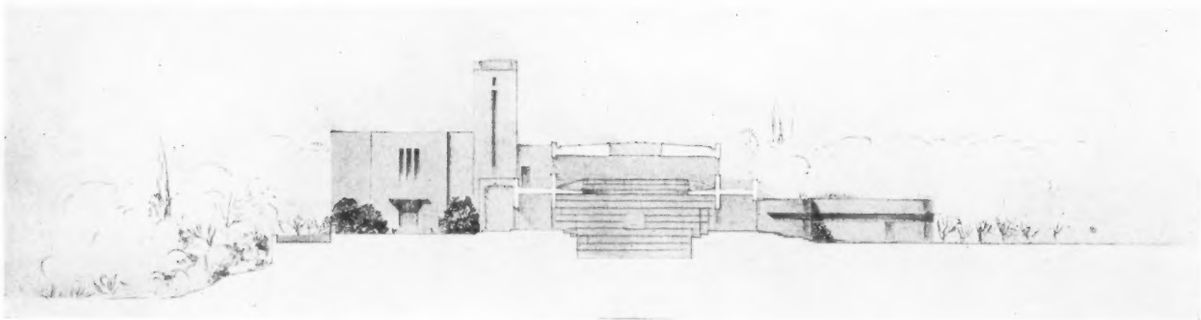
WALTER T. STOPA

Walter T. Stopa, who has been awarded the Le Brun Traveling Scholarship for 1933, is 27 years old and has studied architecture at the Armour Institute, The Chicago Art Institute, and The Chicago Architectural Sketch Club Atelier. For the past seven years he has been employed by Holabird & Root. To this organization he wishes to express his appreciation for the opportunities and assistance offered him in furthering his studies of architecture; and in particular to Mr. David W. Carlson, to whose kindly criticism and instruction Mr. Stopa owes most of his architectural knowledge.

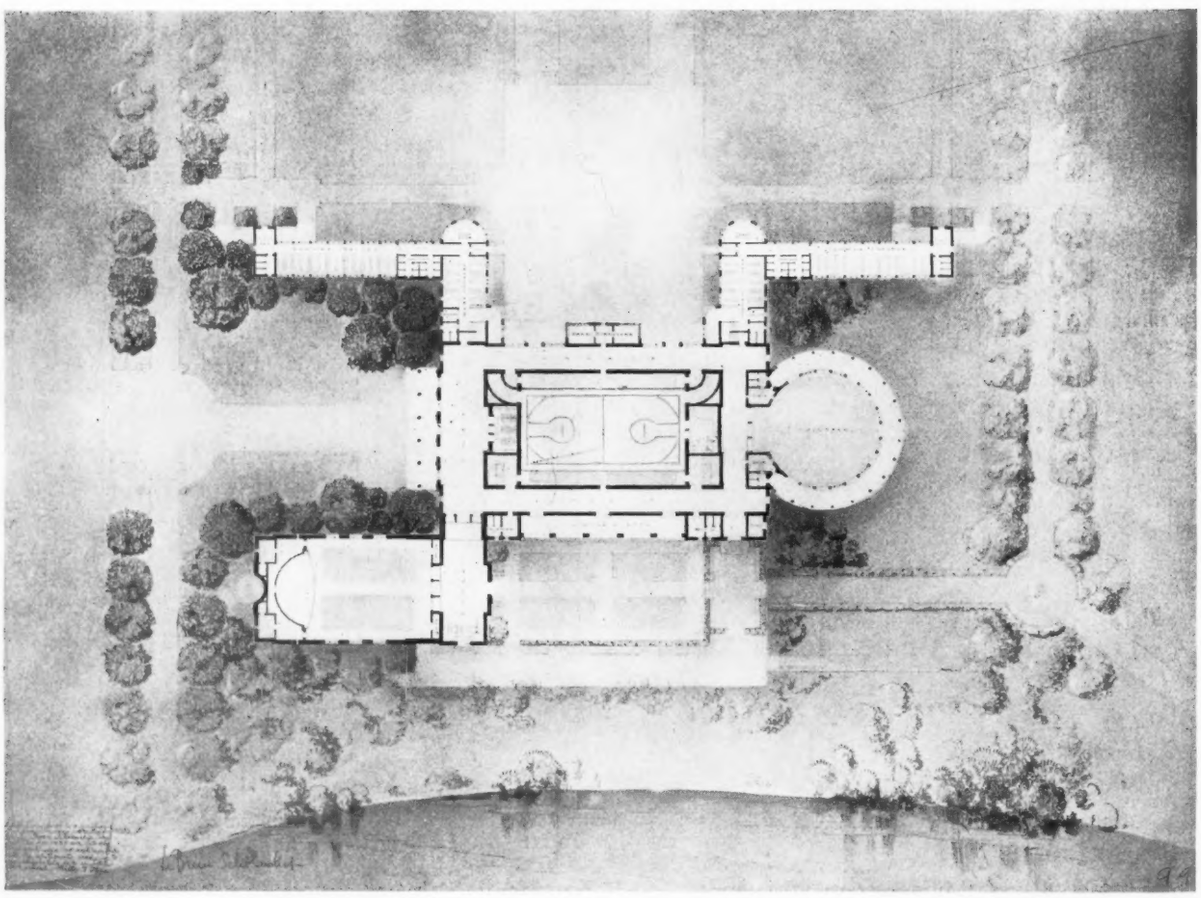
Mr. Stopa is now working on various Century of Progress designs for Holabird & Root, and plans to stay in Chicago until the opening of the Fair. Accompanied by Mrs. Stopa, he will leave about July 1st for the Scandinavian countries, after which he will tour Poland, Germany, Switzerland, and Austria. The winter months will be spent in Italy and Southern France, after which he will tour France and England.



PERSPECTIVE



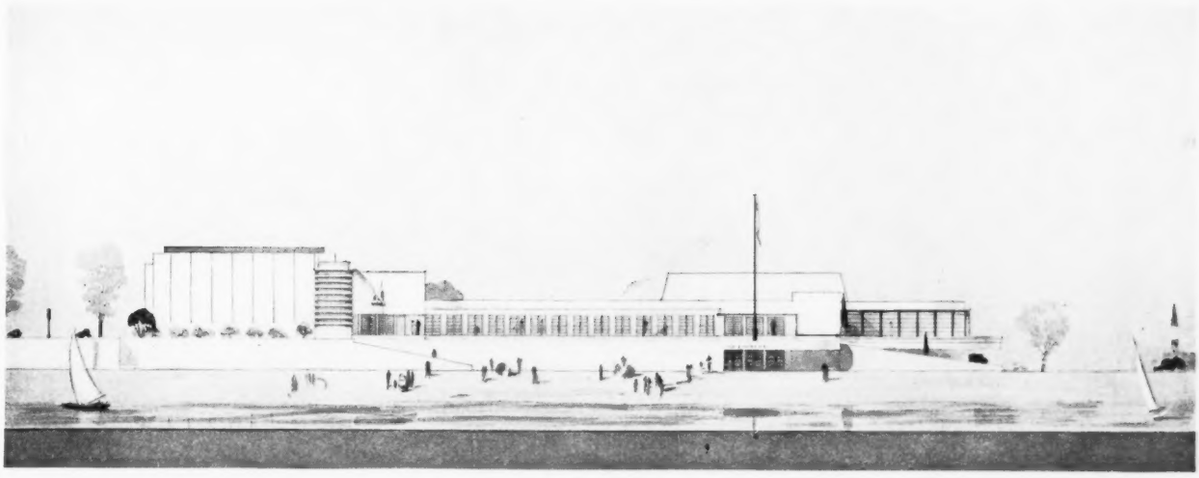
SECTION



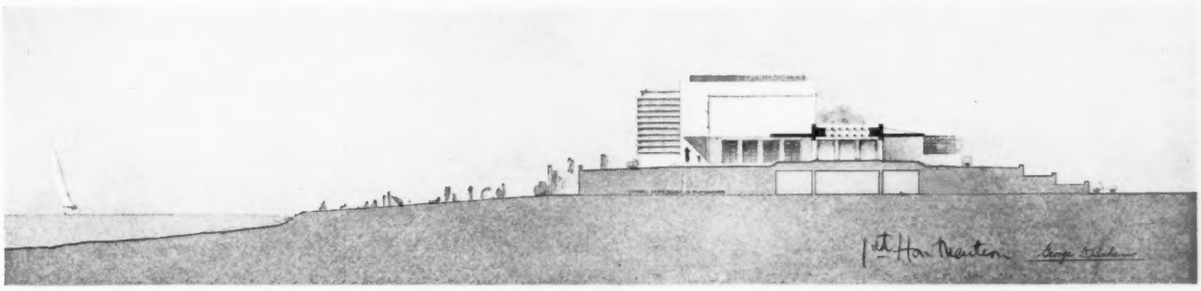
PLAN

WINNING DESIGN FOR "A RECREATION CENTER FOR A SMALL COMMUNITY," BY WALTER T. STOPA

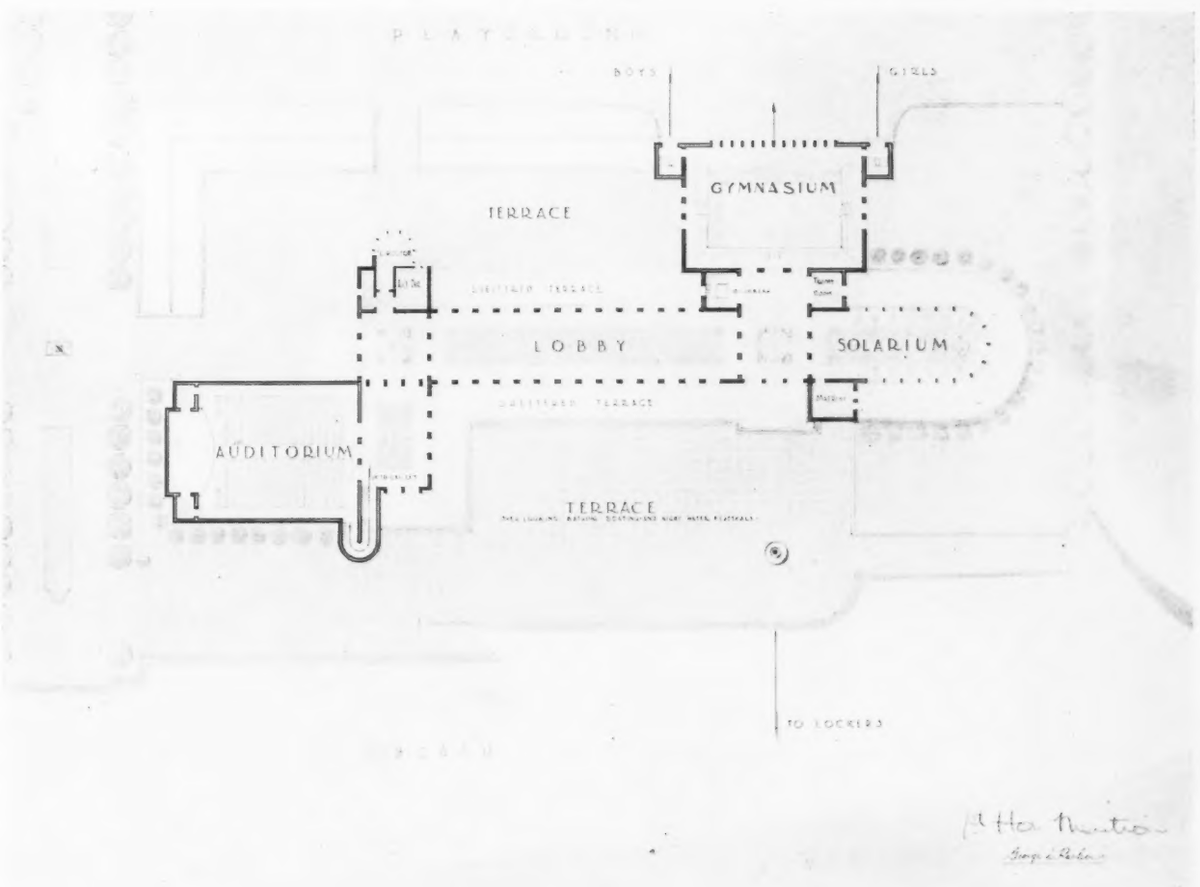
COMPETITION FOR THE LE BRUN TRAVELING SCHOLARSHIP FOR 1933



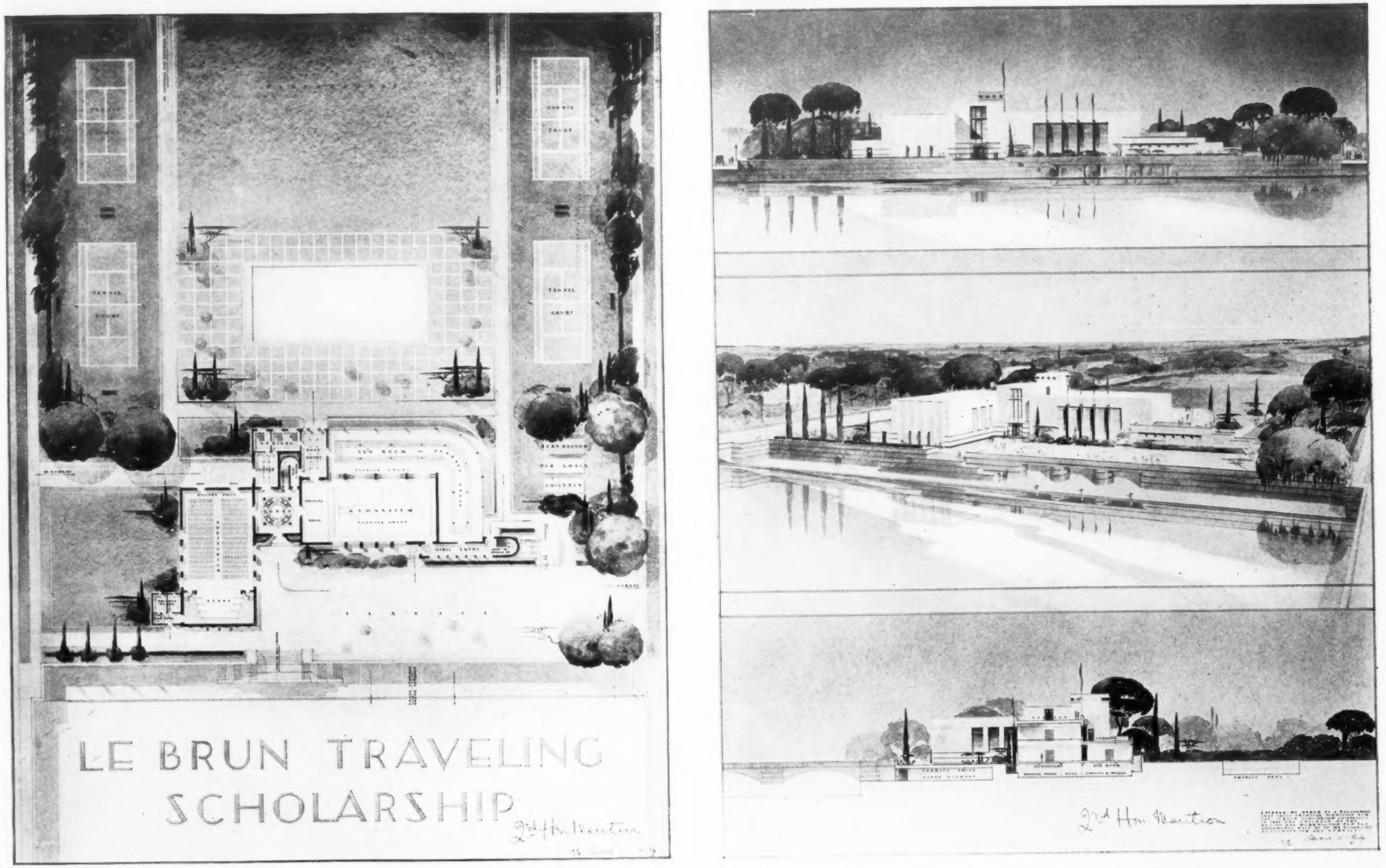
ELEVATION



SECTION



FIRST MENTION DESIGN FOR "A RECREATION CENTER FOR A SMALL COMMUNITY," BY GEORGE D. RECHER
COMPETITION FOR LE BRUN TRAVELING SCHOLARSHIP FOR 1933



PLAN, ELEVATION, PERSPECTIVE, AND SECTION—SECOND MENTION DESIGN FOR "A RECREATION CENTER FOR A SMALL COMMUNITY," BY EDWARD A. PAULY

COMPETITION FOR THE LE BRUN TRAVELING SCHOLARSHIP FOR 1933

HERE AND THERE AND THIS AND THAT

CONDUCTED BY E.L.C.

DESIGN COMPETITION

To stimulate interest in better design of printed goods, Johnson & Faulkner, Inc., 45 East 53rd Street, New York, have announced a design competition open to all professionals either entering as a firm or as an individual: first prize, $250; second prize, $150; third prize, $75; fourth prize, $25. The winning designs will be produced on linen, chintz or cretonne, and the first prize fabric will be used in the decorating of a room which will be on public exhibit in the early fall, giving full credit to the designer or designers. All designs submitted will be on exhibition for a two-week period, and those not winning a prize will be offered for sale to manufacturers in the arts and trade industries at a price set by the designer. All entries must be received by mail or messenger at 45 East 53rd Street, New York, not later than 6 P. M. Thursday, June 1, 1933. The exhibition will open Tuesday at 2:30 P. M. June 6th, and end June 20th. The judges will be selected from among leading decorators, an outstanding authority from the Metropolitan Museum of Art, or the Chicago Art Institute, and an editor of a leading home furnishing magazine.

For complete information write *Design Competition*, Johnson & Faulkner, Inc., 45 East 53rd Street, New York.

WESTCHESTER COUNTY ARCHITECTS' SOCIETY

The Westchester County Society of Architects, 277 North Avenue, New Rochelle, New York, has elected the officers for the year as follows: William H. Jones, President; William C. Halbert, Vice-President; Edmond N. Mac Collin, Secretary; and Louis Levine, Treasurer.

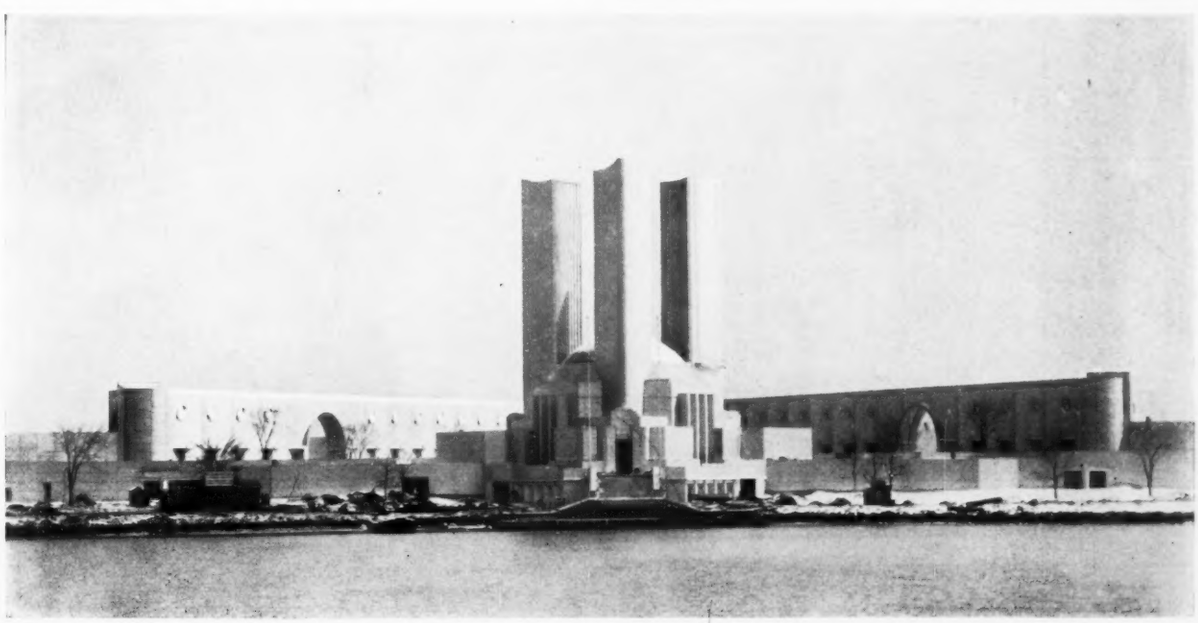
NEW YORK UNIVERSITY GRADUATE SCHOLARSHIP

The Department of Architecture of the College of Fine Arts, New York University, has announced a competition for the selection of a student of unusual ability to pursue graduate work leading to a degree of Master of Architecture during the academic year 1933-34, on the basis of a scholarship with an income equal to the tuition fee for the year.

The competition is open to any graduate of an approved school of architecture, other than New York University, who is between 22 and 30 years of age on July 1, 1933, and who is a citizen and resident of the United States. A photostat or official copy of the applicant's college record or degree must be presented with the formal application. The candidate is expected to fulfill all requirements for the completion of the Master's degree course.

The competition will consist of a design problem involving a reasonable knowledge of design and construction. Programs will be mailed to reach the contestant on June 16, 1933. A preliminary sketch will be required. The drawings must be done without criticism or aid except from reference works and must bear a postmark prior to 12:00 noon, June 26, 1933. Each competitor must work under the supervision of a member of the American Institute of Architects.

Candidates are requested to write for application forms and additional information concerning the course and competition. Application forms must be filed on or before June 10th, 1933. Address Dean E. R. Bossange, College of Fine Arts, New York University, 250 East 43rd Street, New York.



FEDERAL AND STATES PAVILION—A CENTURY OF PROGRESS, INTERNATIONAL EXPOSITION, OPENING IN CHICAGO NEXT MONTH

ARTHUR BROWN, OF LOS ANGELES, AND EDWARD BENNETT, OF CHICAGO, ARCHITECTS FOR THE GROUP OF BUILDINGS ILLUSTRATED

THE DRAFTSMAN'S NOTEBOOK

Four Data Sheets will appear each month in PENCIL POINTS presenting in succinct form those half-remembered facts repeatedly needed at the drafting table. At intervals of twice a year the 24 sheets which have appeared in the preceding six months will be reprinted on heavy bond paper, punched, ready for filing in a standard six-ring loose-leaf binder. Two such sets of 24 sheets each are now available at seventy-five cents each, from this magazine.

Comment and suggestions from readers are welcomed by Don Graf, care of PENCIL POINTS, 330 West 42nd Street, New York.

Last month brought interesting letters from Harry Lockland, Colfax, Wash.; Frederick W. Croun, Philadelphia; Jules Jentes, Bronx; A. Unger, Brooklyn; Victor M. Reynal, East Orange; Harold W. Krawer, Mansfield, Ohio.

Several formulæ for fixatif and inks have been sent in, of which a Data Sheet will be made. If anyone has successfully made any of these drafting room concoctions, and hasn't yet written, a letter would be in order.

Next month there will be a sheet showing how to lay out a timepiece which only works in the summer time—a north-facing sundial. And three other useful sheets.

WHERE DO YOU LIKE THE KITCHEN SINK?

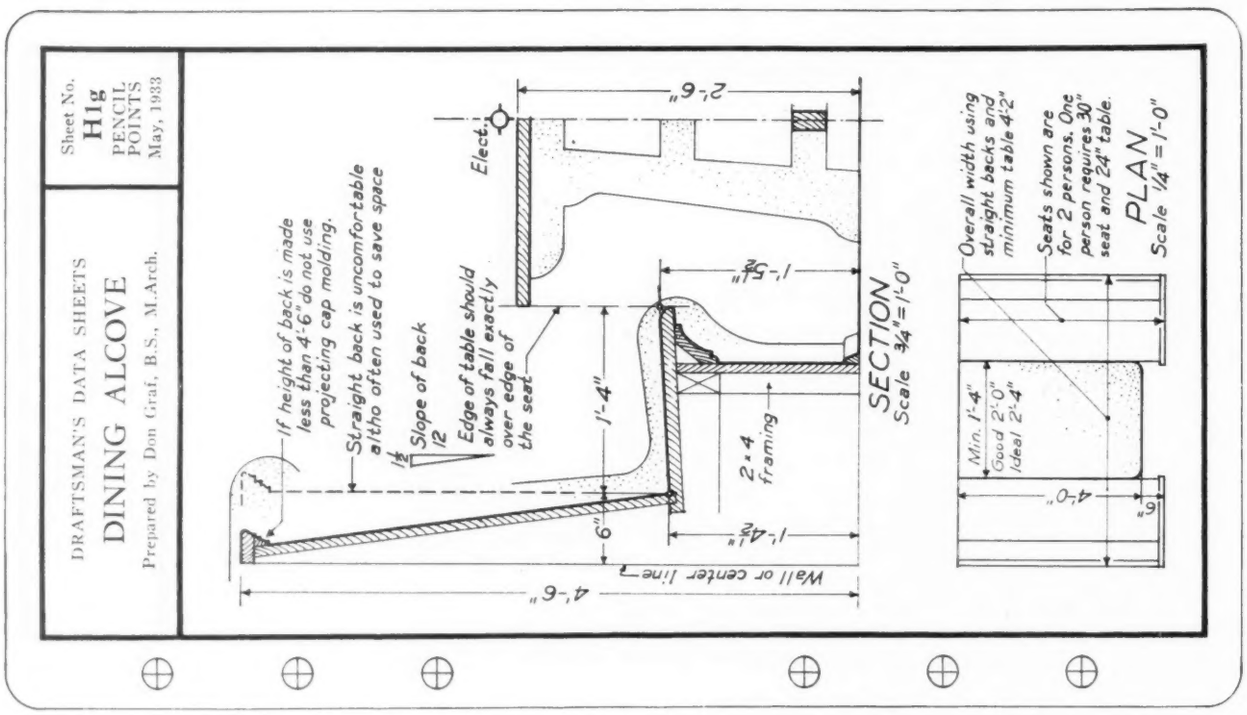
Editor's Note:—*Personally, we were quite delighted to receive a letter from Mr. Victor Reynal taking exception to some of the facts set down by Don Graf in his data sheet on kitchen planning, published in the March* PENCIL POINTS. *We decidedly like our kitchen sink* under *a window—as a matter of fact we distinctly remember a small house problem, when we were in school, the solution of which was our pride and joy. We planned the kitchen "for the woman who sings at her work," and the kitchen sink was under a window. Here's Mr. Reynal's letter, followed by Mr. Graf's reply. This important question must be settled! Where do you like the kitchen sink?*

"DEAR MR. GRAF:

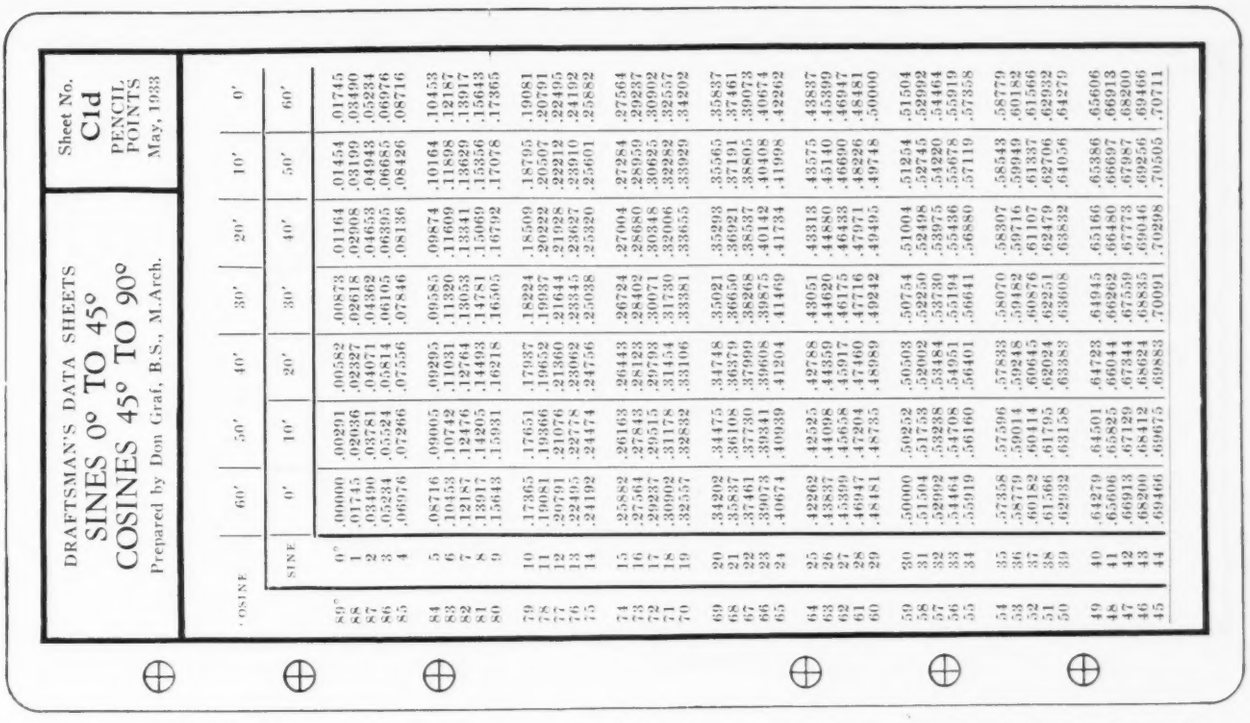
"May I respectfully address you regarding your data sheet on Kitchen Planning (D3a). I imagine that this sheet is the result of much study and effort on your part, but when there is such disagreement on kitchen planning, not only among architects, but also among domestic science experts, how can you arrive at any conclusions that may be dignified by the term 'Data'? I have never yet seen a kitchen which was admitted to be entirely satisfactory by any two persons.

"Just to get down to details, I think that I could name a number of architects who would be willing to debate with you on the question of the location of the kitchen sink. You say 'Not under a window,' yet in fully ninety per cent of the prize-winning houses in competitions the sink is not only located under one window but generally under two. Contrary to your statements the reasons are obvious. In the first place, a good light is essential for clean dishes and in any other location except directly under a window there are bad shadows cast by the person working there. If a kitchen is placed on the north side of a house there should be no objectionable 'bright light' to be facing. Or if the kitchen is on the sunny side of the house obscure glass or proper curtains will eliminate the glare. Then again, if a sink is put next to the Dining Room door as you suggest, it not only increases the congestion at this point but also the noise and clatter of dishes is more audible when the sink is nearer the Dining Room. And there are at least half a dozen more objections that might be mentioned!

"One other point of contention . . . . why glass panels in cabinet doors? Wood is better. It does not break as glass does, does not show the dirt as much and also hides the miscellaneous and unattractive assortment of articles that are kept on the shelves. As far as knowing where



DATA SHEET NO. H1g. *The edge of ye Breakfast Knooke seat is often cut back from the plane of the table edge so that the ten seconds required to seat yourself may be easy, but the hour you spend in sitting is uncomfortable.*



DRAFTSMAN'S DATA SHEETS
SINES 0° TO 45°
COSINES 45° TO 90°
Prepared by Don Graf, B.S., M.Arch.

Sheet No. C1d
PENCIL POINTS
May, 1933

SINE	0'	10'	20'	30'	40'	50'	60'	COSINE
0°	.00000	.00291	.00582	.00873	.01164	.01454	.01745	90°
1	.01745	.02036	.02327	.02618	.02908	.03199	.03490	89
2	.03490	.03781	.04071	.04362	.04653	.04943	.05234	88
3	.05234	.05524	.05814	.06105	.06395	.06685	.06976	87
4	.06976	.07266	.07556	.07846	.08136	.08426	.08716	86
5	.08716	.09005	.09295	.09585	.09874	.10164	.10453	85
6	.10453	.10742	.11031	.11320	.11609	.11898	.12187	84
7	.12187	.12476	.12764	.13053	.13341	.13629	.13917	83
8	.13917	.14205	.14493	.14781	.15069	.15356	.15643	82
9	.15643	.15931	.16218	.16505	.16792	.17078	.17365	81
10	.17365	.17651	.17937	.18224	.18509	.18795	.19081	80
11	.19081	.19366	.19652	.19937	.20222	.20507	.20791	79
12	.20791	.21076	.21360	.21644	.21928	.22212	.22495	78
13	.22495	.22778	.23062	.23345	.23627	.23910	.24192	77
14	.24192	.24474	.24756	.25038	.25320	.25601	.25882	76
15	.25882	.26163	.26443	.26724	.27004	.27284	.27564	75
16	.27564	.27843	.28123	.28402	.28680	.28959	.29237	74
17	.29237	.29515	.29793	.30071	.30348	.30625	.30902	73
18	.30902	.31178	.31454	.31730	.32006	.32282	.32557	72
19	.32557	.32832	.33106	.33381	.33655	.33929	.34202	71
20	.34202	.34475	.34748	.35021	.35293	.35565	.35837	70
21	.35837	.36108	.36379	.36650	.36921	.37191	.37461	69
22	.37461	.37730	.37999	.38268	.38537	.38805	.39073	68
23	.39073	.39341	.39608	.39875	.40142	.40408	.40674	67
24	.40674	.40939	.41204	.41469	.41734	.41998	.42262	66
25	.42262	.42525	.42788	.43051	.43313	.43575	.43837	65
26	.43837	.44098	.44359	.44620	.44880	.45140	.45399	64
27	.45399	.45658	.45917	.46175	.46433	.46690	.46947	63
28	.46947	.47204	.47460	.47716	.47971	.48226	.48481	62
29	.48481	.48735	.48989	.49242	.49495	.49748	.50000	61
30	.50000	.50252	.50503	.50754	.51004	.51254	.51504	60
31	.51504	.51753	.52002	.52250	.52498	.52745	.52992	59
32	.52992	.53238	.53484	.53730	.53975	.54220	.54464	58
33	.54464	.54708	.54951	.55194	.55436	.55678	.55919	57
34	.55919	.56160	.56401	.56641	.56880	.57119	.57358	56
35	.57358	.57596	.57833	.58070	.58307	.58543	.58779	55
36	.58779	.59014	.59248	.59482	.59716	.59949	.60182	54
37	.60182	.60414	.60645	.60876	.61107	.61337	.61566	53
38	.61566	.61795	.62024	.62251	.62479	.62706	.62932	52
39	.62932	.63158	.63388	.63608	.63832	.64056	.64279	51
40	.64279	.64501	.64723	.64945	.65166	.65386	.65606	50
41	.65606	.65825	.66044	.66262	.66480	.66697	.66913	49
42	.66913	.67129	.67344	.67559	.67773	.67987	.68200	48
43	.68200	.68412	.68624	.68835	.69046	.69256	.69466	47
44	.69466	.69675	.69883	.70091	.70298	.70505	.70711	46
45								45

DATA SHEET NO. C1d. *In which the program of making trigonometry easy is continued at the risk of throwing thousands of Trig. Professors out of work.*

things are, that is soon learned. You don't put glass fronts on bureau drawers!

"This note is written with the idea that the budding young architects should not have to contend with questionable data as well as with the difficulties of finding work when there isn't any to find.

"Yours for more and better data sheets,

(*Signed*) VICTOR M. REYNAL,
44 Brick Church Plaza,
East Orange, N. J."

DEAR MR. REYNAL:

"Since you evidently regard the conclusions of architects and home economics specialists with great respect, I quote from volume 9, page 175, of *Household Management and Kitchens*, prepared by The President's Conference on Home Building and Home Ownership, as follows, 'The sink should be well lighted with a window preferably in the wall at RIGHT ANGLES.' The committee submitting this report was comprised of leading home economics authorities and architects, who made a complete survey of the problem of kitchen planning.

"But it is neither to the architect nor the self-styled domestic science 'experts' that we must turn for information on proper lighting. The average architect wouldn't recognize a lumen if it came up and spoke to him on the street, nor should he be expected to, necessarily. Just how the business of discovering new ways to cook spinach or gushing over cake frostings fits a domestic science 'expert' to act as an illumination engineer is a bit hard to understand.

"Without discount for allowable literary hyperbole, your factor of 90% is impotent as proof of your contention. For we recall that *99.99%* of the world's population were once firmly convinced that the solar system rotated about the earth. It almost cost a certain Mr. Galileo his life for daring to question such an 'obvious' fact!

"It is rather the scientific observer who can and does supply us with proven basis of fact. Donald A. Laird, famous director of the Colgate Psychological Laboratory, writing in the November, 1929, issue of *Better Homes and Gardens* says, 'It is a serious psychological error to have a window above the sink. It forces her (the housewife) to work facing the light while at the sink, and is a forerunner of eyestrain.' Terrell Croft, in his *American Electricians' Handbook*, writes, 'When trying to see an object, DO NOT ALLOW A LIGHT TO SHINE INTO THE EYES, NOR FACE A BRIGHTLY LIGHTED AREA.'

"It is not one, but two kinds of glare that we are concerned with. A popular fallacy is that so-called 'obscure' glass reduces glare. Since the rays of sunlight penetrate obscure glass with as much facility as they do clear glass, it does not reduce *direct* glare. On the contrary it often renders it more objectionable through prism effect, by upturning rays to the eyes which would normally fall below the eye level. The scheme of using twice the light areas required for good vision and then screening out the superfluous half by curtains or other device is logically untenable, even if it were successful, which it is not.

"If windows are allowed to admit sufficient of the transverse ether oscillations to light the kitchen, *contrast* glare will be objectionable (consciously or unconsciously) to anyone facing them, regardless of wall colors or orientation. The bright auto headlight which is scarcely noticed in the daytime produces acute visual discomfort at night because of contrast. In the same manner, the lighted window areas become objectionable because of their contrast with the darker surrounding walls. No obscure glass or curtains can stop this effect.

"Visual acuity increases inappreciably for intensities over 2 foot candles. On a rainy day we get 3 foot candles at a window. It should be evident that we gain nothing by placing the sink so that it will receive more light than the eye can use even on a rainy day.

"Regarding the glass panel doors, may I again quote

from Dr. Laird's article as follows: 'A kitchen with everything stored out of sight handicaps the progress of kitchen work. We worked in such a kitchen with stop watches and tape-measure a short time ago and found the following unnecessary work caused by having implements carefully hidden from view. The job was preparing potatoes for boiling. . . . . At least five minutes time, two tiring stoops, fifty-four needless steps . . . . could have been saved. The inefficiency was due entirely to the "beautiful" cabinets in the kitchen where utensils were hidden out of sight.' So-o-o-o!

"And I assumed in the 'Data Sheet' that the modern American housewife was sufficiently scrupulous about sanitation to keep the kitchen cabinet doors clean, be they wood or glass!"

DON GRAF.

"AMAZON HEAD," GWEN LUX, SCULPTOR

MR. HERMANN CHAMPIONS OUR ARCHITECTS

To the Editor of PENCIL POINTS

DEAR SIR:—

I am surprised that you cared to give space in your April number [page 196] to the ill-considered lament of the Nameless European Draftsman, criticizing American Architects.

For the past thirty years I have been in close contact with several thousand draftsmen of all nationalities, and I have found the work of foreign draftsmen greatly inferior to that of Americans.

Our problems are different and require a different viewpoint. Remember the Chicago Tribune Competition and the submitted European designs.

There is better Spanish Architecture here than in Spain, better Romanesque than in France, better composition than in Italy. It is true we do not have century-old cypresses, but we do have sanitary plumbing.

As for his assertion that our Architects are just promotors, the young man (he MUST be a young man) seems to have worked for a certain type of firms which are to be found in any country. How closely our best Architects are associated with their work is shown that after their death it seems impossible for the firm to continue the quality of their designs.

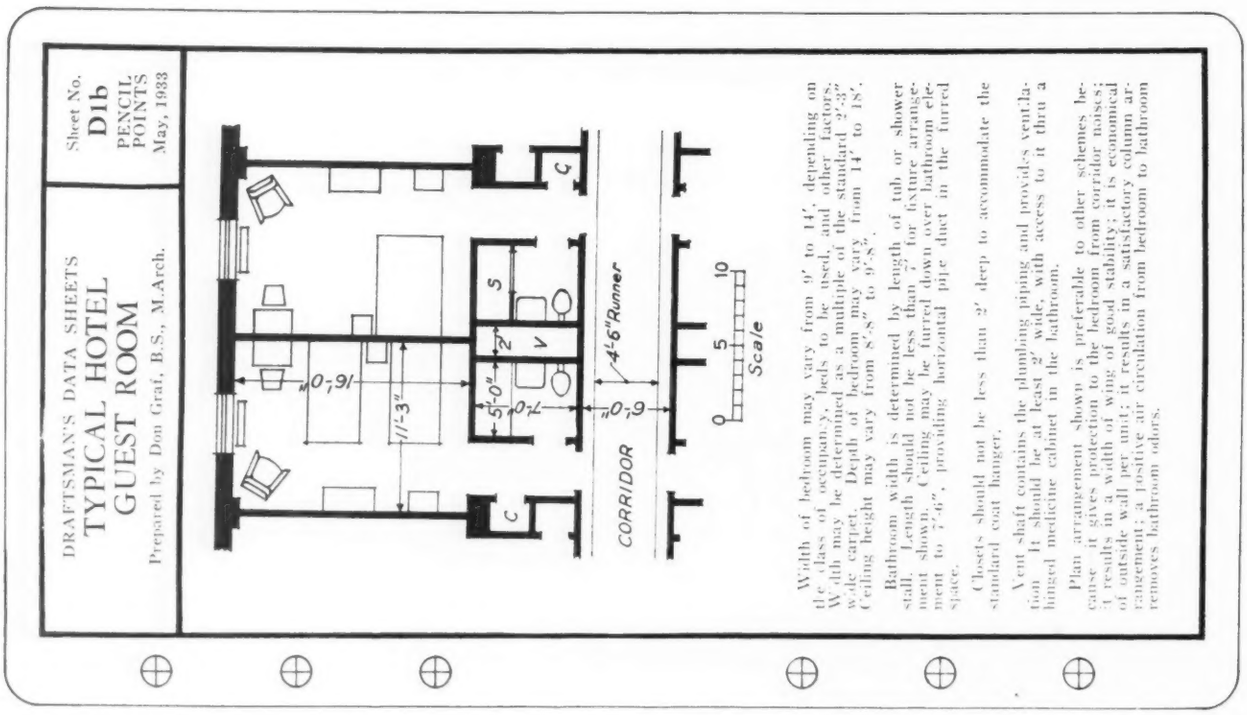
May I suggest to your young contributor to confine his observations until he matures to the lunch-hour cafeteria table.

Respectfully,

KURT HERMANN, Babylon, New York.

GUGGENHEIM MEMORIAL FELLOWSHIPS

Among those appointed to Fellowships for advanced study abroad during 1933 by the John Simon Guggenheim Memorial Foundation, the following names will be of particular interest to readers of PENCIL POINTS: Howard Cook, Artist, Granville, Massachusetts, for creative work in etching, wood engraving, and lithography, in Mexico; Gwen Lux, Sculptor, New York, for creative work


DRAFTSMAN'S DATA SHEETS
TYPICAL HOTEL GUEST ROOM
Prepared by Don Graf, B.S., M.Arch.
Sheet No. D1b
PENCIL POINTS May, 1933
C
S
V
2'
5'-0"
0.91
0.7
0.9
11'-3"
4'-6" Runner
CORRIDOR
0 5 10
Scale
Width of bedroom may vary from 9' to 14', depending on the class of occupancy, beds to be used, and other factors. Width may be determined as a multiple of the standard 2'-3" wide carpet. Depth of bedroom may vary from 14' to 18'. Ceiling height may vary from 8'-8" to 9'-8".
Bathroom width is determined by length of tub or shower stall. Length should not be less than 5' for fixture arrangement shown. Ceiling may be furred down over bathroom element to 7'-6", providing horizontal pipe duct in the furred space.
Closets should not be less than 2' deep to accommodate the standard coat hanger.
Vent shaft contains the plumbing piping and provides ventilation. It should be at least 2' wide, with access to it thru a hinged medicine cabinet in the bathroom.
Plan arrangement shown is preferable to other schemes because it gives protection to the bedroom from corridor noises; it results in a width of wing of good stability; it is economical of outside wall per unit; it results in a satisfactory column arrangement; a positive air circulation from bedroom to bathroom removes bathroom odors.

DATA SHEET NO. D1b. *Since the chief income of a hotel derives from its guest rooms, the success of the building depends first of all on a carefully considered typical unit.*

in sculpture, abroad; Carlotta Petrina, Artist, Brooklyn, New York, for creative work in lithography, in France. Mrs. Petrina is the wife of John Petrina whose article on sketching appeared in PENCIL POINTS for April. (See drawing to right.)

The tenure of Fellowship is adjusted to the purpose and scope of the studies of each individual with a stipend usually not exceeding $2,500 for a year of twelve months.

For information regarding eligibility for these Fellowships address Henry Allen Moe, Secretary, John Simon Guggenheim Memorial Foundation, 551 Fifth Avenue, New York.

FROM A PENCIL DRAWING BY CARLOTTA PETRINA

Dining Room Suite — First Prize, $400, J. Gordon Elliott, Guthrie, Kentucky. Honorable Mention, William A. Balbach, Grand Rapids, Michigan; G. Rohde, New York; C. G. Kimberly, Grand Rapids, Michigan; Herman Schoenfeldt, Chicago, Illinois.

The Jury of Award consisted of Richard F. Bach, of New York, Louis F. Breuner, of Sacramento, California, A. W. Crawford, of Chicago, Eugene Schoen, of New York, L. W. Stevenson, of New York, Joseph Urban, of New York, Richardson Wright, of New York, and Burdett Green, of Chicago.

AWARDS IN COMPETITION FOR MODERN FURNITURE DESIGNS

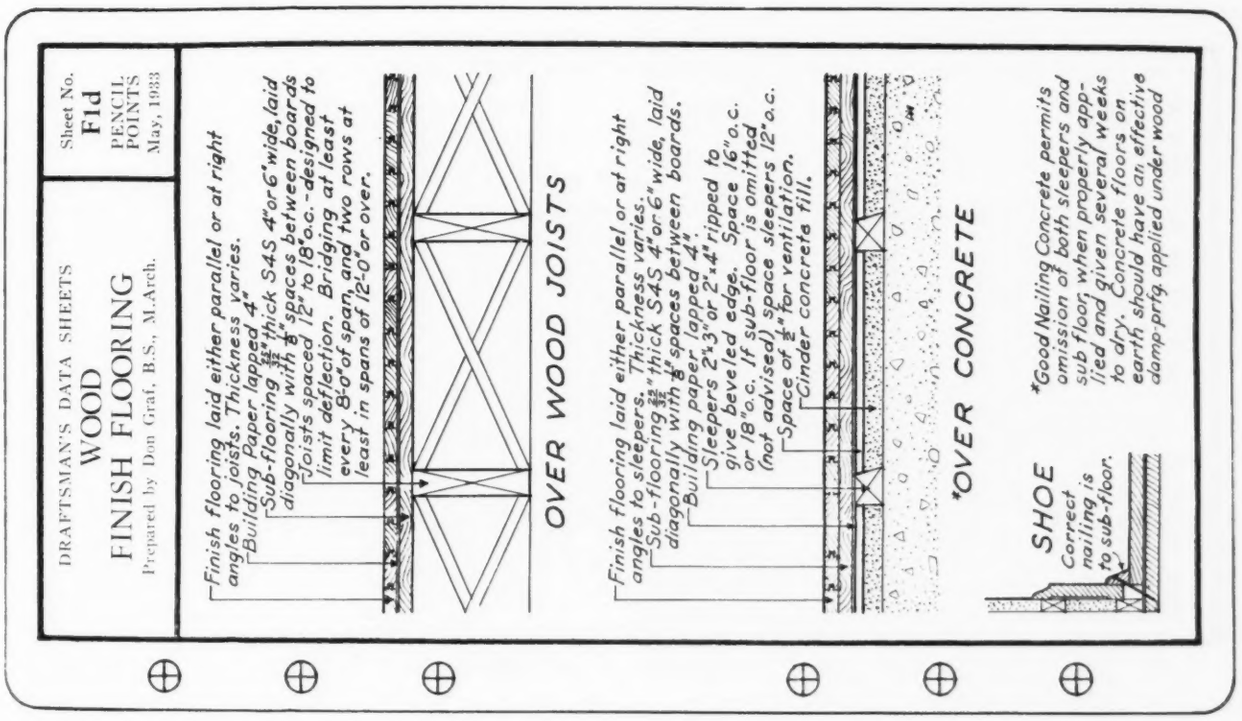
The American Walnut Manufacturers Association has announced the winners in their American Modern Furniture Design Competition as follows:

Bedroom Suite—First Prize, $500, Donald M. Douglass, New York. Second Prize, $200, Fred Geibelt and Charles Beeston of New York. Honorable Mention, Erwin A. Adelberger, Philadelphia, Pa.; J. L. Berrall, Bloomfield, N. J.; J. W. Betts, Brooklyn, N. Y.; Paul McVey Mitchell, Pittsburgh, Pa.; Joseph J. Roberts, New York.

NATT PIPER WRITES OF THE EARTHQUAKE

"And maybe you think the jerry-quack-builder here in Long Beach isn't looking for a place to hide! Architects' work stood up in comparison very well indeed, particularly the larger steel frame and concrete structures which were practically undamaged except for yards and yards of cracked plaster. Almost all damage was sustained by smaller brick, one-story store buildings . . . . . .

"Strange as it may seem, our offices here are not rushed as yet. Lack of rebuilding finance accounts for this. 'Most everyone is busted you know! This makes it impossible for hundreds to even rebuild a chimney."


DRAFTSMAN'S DATA SHEETS
WOOD
FINISH FLOORING
Prepared by Don Graf, B.S., M.Arch.
Sheet No. F1d
PENCIL POINTS May, 1933
OVER WOOD JOISTS
OVER CONCRETE
SHOE
Correct nailing is to sub-floor.
*Good Nailing Concrete permits omission of both sleepers and sub floor, when properly applied and given several weeks to dry. Concrete floors on earth should have an effective damp-prfg. applied under wood

DATA SHEET NO. F1d. *Don't follow this sheet if you are designing a haunted house where creaking floors are a requirement.*

THE SPECIFICATION DESK

Unusual Specifications

By David B. Emerson

In the complex work of the specification writer many different forms are encountered, most of them are standard, and many of them are thoroughly well known even to the more youthful members of the profession. But there are forms which are encountered occasionally and then only in special work.

Many specification writers keep notebooks with these unusual specification forms written down for future reference, very much like the careful housewife and her book of recipes. These forms are no secret, in fact I have never discovered any secrets in specification writing. It is an open book, but it takes a little experience to interpret it properly.

Occasionally it is necessary to make borings on the site of a proposed building to determine the quality of the soil, and the depths at which hardpan or rock are encountered. As a general rule such matters are handled by the consulting engineer who designs the foundations and the steel frame. But if no consulting engineer has as yet been retained and preliminary work is required, it naturally falls to the specification writer to write the specification for the borings. The following is a specification for borings which has been used for some time by one of New York City's leading consulting engineers.

"Borings shall be made as shown on the accompanying diagram. These borings shall be carried down to a depth of 40′0″ except boring No. .... which shall be carried down to rock unless it is not found within the depth of 70′0″.

"In addition to the above the following core borings shall be taken which shall be to .... feet into rock.

"Borings in hard strata shall be made with a core drill.

"If the strata is found to be too soft for the use of a core drill, then a churn drill shall be used, but only a sufficient amount of water to keep the churn cool shall be used and not enough water to assist the sinking of the casing by jetting action.

"Where the churn drill is used the dry sampler shall be used to obtain samples. This dry sampler shall consist of a pipe closed at one end, with a slotted hole on one side, driven into the soil in advance of the casing.

"Samples shall be taken at every 5′0″, and at any point where the material changes in character.

"Samples shall be sealed in water-tight containers and shipped to the office of the Engineer (or Architect).

"The boring contractor shall keep the Engineer (or Architect) advised during the progress of the work, and shall not remove his equipment from the job until permission is given by the Engineer (or Architect).

"Report ground water level."

On rare occasions an architect's office is given a job to build a perfectly simple building on filled or marshy ground. The only logical solution of the problem is to set the foundation on piles. If the building was of any size the whole matter of the foundations would be taken care of by the structural engineer, but where no real structural conditions exist, very naturally no engineer would be required. The simplest and most inexpensive solution of the problem would be to drive wood piles under the footings. The following specification is one which was written by a structural engineer in New York City.

"All piles shall be southern pine, oak or the approved equal, sound and free from imperfections liable to impair their strength or durability, or to prevent proper driving.

"They shall be of such straightness that a line from the center of the point to the center of the head will lie within the pile throughout its length, and they shall not be less than 6″ in diameter at the point, and 10″ in diameter at the butt, exclusive of the bark which shall be stripped.

"The minimum length of piles shall be 20′0″ below the cut-off.

"All piles shall be driven by means of a steam hammer, but a water jet may be used if necessary to assist in the driving. The piles shall be accurately located, and driven plumb and true.

"The tops of all piles shall be at the levels called for on the drawings, and if necessary shall be cut off to produce this level foundation. The piles shall be driven so that they will support fifteen tons each, as figured by the *Engineering News* formula."

In excavating for foundations, basements and cellars, rock is very often encountered, and if this contingency is not properly covered in the specifications, all kinds of arguments are liable to arise between the subcontractor and the general contractor, and between the general contractor and the architect. Also if the methods of rock excavation are not properly described the contractor for the excavation may go ahead in his own way and thereby cause all kinds of damage to the adjoining property, which will naturally revert back to the owner. The specification for the removal of rock, which follows, is one that has been used successfully by one of the oldest and best known firms of architects in New York City.

"All rock, boulders and other impediments encountered in the work shall be removed by this Contractor.

"Boulders shall be broken, by drilling and blasting, into pieces small enough to be removed from the premises in carts. All drilling and blasting of rock shall be done in such a manner as prescribed by the City regulations.

"It must be done with the greatest care. Blasts shall be properly protected before firing, and proper guards, signals, etc., maintained.

"Rock must be leveled under all footings.

"Against the adjoining buildings the rock shall be removed by line drilling at 4″ intervals and plugging.

"The Contractor will be held responsible for all damage or injury to persons or property caused by blasting,

improper storage of explosives or negligence in their use."

Whenever buildings are built in any of the larger cities, it is practically always necessary to build sidewalk bridges to protect pedestrians, in some cities it is mandatory. If this is left to the discretion of some of the average contractors the results are sometimes startling, as I have found to my own discomfort in the past.

It is better to specify the construction and materials carefully, and then the contractor has absolutely no excuse for erecting a flimsy structure. The specification which follows is a standard used by one of the leading general contracting companies in this country, for use on their own work.

"Sidewalk bridge shall be built along the entire frontage of building.

"Bridge shall be constructed of good sound lumber, well braced, battened and thoroughly spiked and bolted together. Floor planking and structural members of bridge shall be yellow pine; braces, scantlings and finishing stock shall be spruce or pine. Posts shall be in one piece for the full height (without splices), and uniformly braced.

"Bridge shall be provided with driveway sections located where shown.

"The entire passageway under bridge, over sidewalk section shall be provided with a suspended waterproofed ceiling pitched toward curb, securely framed and boarded with 7/8" tongued and grooved spruce boarding, and covered with two-ply tarred felt securely lapped and tacked. Ceiling over driveway sections shall be set at higher level as required, and enclosed with 7/8" spruce sheathing at sides; ceiling and sides over driveway section waterproofed same as balance of sidewalk sections.

"Stairways (located where shown) shall be included herein, constructed with 2" plank strings and treads, cleated and secured in a rigid manner, and enclosed with sheathed partition corresponding to fence; each enclosure shall be fitted with gate located where directed; gates hung on strap hinges and fitted with padlock, hasp and staples.

"The entire outer line of bridge provided with rail extending above deck as shown, overhanging outriggers shall be included along bridge and returned on ends to building lines. The upper side of all overhangs shall be provided with ground strips and covered with double wire mesh fully covering the overhang and continued down railing to planked floor of bridge. The double wire mesh to include a lower layer of 1/8" wire 2" x 2" mesh, galvanized, and an upper layer of No. 18 gauge wire 1/2" x 1/2" mesh, galvanized, all stretched tight and rigidly stapled.

"Fence 7'0" high shall be included along entire frontage of building (with return to property line at each end) and including returns around stairways leading to deck of bridge, constructed of sound spruce timber using 7/8" dressed, tongued and grooved boards, housed together and well nailed with supporting posts where required in addition to the posts supporting bridge, and including three 2" x 4" horizontal rails.

"The driveway entrance shall be provided with sliding doors, same height and construction as fence, hung on overhead tracks and heavy barn door hangers, and secured with padlock, hasp, chain and staple. In addition a door 3'0" wide shall be included where directed, framed in a secure manner, hung on approved strap hinges and provided with locks, etc., as noted for sliding gates.

"When so directed by the General Contractor's Superintendent, this Contractor shall remove from the premises all materials in connection with the bridge and fence, it being understood that all removed materials shall become the property of this Contractor.

"This Contractor shall furnish and pay for all necessary permits for the work included herein."

For very large buildings, located in the heart of any of the great cities, it is a good practice to specify one of the patented steel-framed sidewalk bridges, with a corrugated galvanized steel fence, but for smaller and less expensive buildings the wooden bridge and fence is ample and sufficient if properly constructed.

At the present time when there is a decided flair for an unpainted treatment of decorative wrought ironwork, specification writers are very naturally on the lookout for a specification for finishing ironwork which will give this effect. The specification which follows is one which I have used with excellent results.

"All exposed surfaces of all interior wrought ironwork shall, after fabrication, be well soaked in best grade oil finish, and burnt in properly to insure the oil penetrating the metal.

"After the oil is properly burnt in, the surface shall be rubbed down as may be necessary to produce a natural wrought iron finish, with high lights accentuated, as desired by the Architect.

"A good coat of ..... lacquer shall then be applied, and when dry a final coating of first quality white wax shall be thoroughly rubbed on by hand.

"Samples showing the character and finish are to be submitted to the Architect for his approval.

"All concealed portions of wrought ironwork, and all structural supporting and stiffening members shall be painted one shop coat of red lead and linseed oil paint, and two field coats of white lead and linseed oil paint."

This specification should never be used for exterior wrought ironwork, or any ironwork liable to exposure to the weather. For such work, nothing should be used for finishing but paint, as any other finish will surely rust and stain any stone or other work adjoining the ironwork, to say nothing of the ultimate damage to the ironwork itself due to corrosion.

An excellent specification for painting exterior ironwork which was given me by a very high-class painting and decorating contractor is as follows.

"The ironwork should be thoroughly cleaned with benzine and wire-brushed. The first coat should be high-grade red lead, ground in linseed oil and thinned with one-half turpentine and one-half linseed oil, making a heavy-bodied paint. The succeeding coats can be mixed similar to the material for the painting of exterior woodwork."

Among the numerous specifications which one encounters in the course of his work there are many unusual painting specifications, due probably to the fact that there is nothing in the whole gamut of building construction which allows a greater range of experimentation.

The following specification for the treatment of oak or chestnut half-timber work to obtain an antique effect, has been used successfully by one of the leading New York architects, who has built many very successful half-timber houses.

"Give the surface of the wood a first coat of a good light gray acid stain. The stain should be cut with five gallons of water to one gallon of stain.

"Wire-brush after staining.

"Apply glazing coat mixed in batches as follows: 10 pounds white lead, 5 gallons pure linseed oil, with the addition of a small quantity of dryer, and a small quantity of black and raw umber to produce a light gray, then add 10 pounds of rotten stone and 10 pounds of powdered

pumice stone. Cut the above mixture with one-third turpentine by volume."

For obtaining the effect of antique or English oak finish on American white oak, the specification which follows was given me by a firm of decorators who had used it quite successfully in their work.

"Prepare wood for staining by brushing with wire brushes.

"Prepare stain by mixing two sticks of sodium hydroxide (caustic soda) and one-quarter pound of dry cobalt blue in one gallon of water. For a gray effect add one-half pound of dry, raw umber, and for a brown effect add one-half pound of dry burnt sienna.

"After staining brush with wire brushes and sandpaper, allowing at least twenty-four hours for drying."

The specification which follows for gilding on metal surfaces which are exposed to the weather is one which was recommended by a manufacturer of gold leaf in Providence, Rhode Island.

"Any corroded spots on the surface of the metal should be washed off with a weak solution of acid (a treatment of that kind applied to the entire surface of the metal would be advisable if practicable)."

This treatment prevents these bad spots from working through the paint and eventually discoloring the gold leaf.

"The first coat of paint should be red lead which further assists in keeping any corrosion from getting through.

"After this coat of red lead is applied, give one or two (the latter is preferred) coats of yellow lead.

"Yellow lead is specified because it is nearest to the color of gold leaf, and should any particles of the leaf be removed at any time, the spots will not be so conspicuous.

"After applying these three coats of paint, and allowing sufficient time between coats for their thorough drying, the gold size should be applied.

"This size should be a special genuine fat oil gold size. The fat oil in this size gives the gold leaf an elastic bed to rest on, and prevents cracking of the leaf due to expansion and contraction.

"Due to the slow drying quality of this size, no gilding should be done until it has dried for at least twelve to eighteen hours.

"As the gold leaf is applied, and this must not be done until the gold size has dried out enough to give the proper amount of tack or stickiness, the leaf should be gone over with a piece of cotton to press it firmly into the sizing, but gold leaf must not be applied to the size when the latter is wet, for if this is done the size will soak through the gold leaf, thereby eliminating all brilliancy, and giving the surface a dull appearance.

"All gold shall be a special deep gold leaf, guaranteed 23 karat, plus."

The various specifications which have been quoted have, as I stated in the beginning of this article, come from different sources. All of those different sources, however, were of excellent standing. Some of these various specifications may be quite prolix, but in adapting them to his own use the reader can easily shorten them and, so long as the salient points remain, they will undoubtedly serve their purpose quite as well.

Wherever materials are mentioned it must be understood that in adapting any of the specifications to suit the conditions in different localities, the materials on the local market should naturally be specified, not like an Architect I once knew, who specified Cow Bay sand which comes from Long Island, to be used on a job in Chicago.

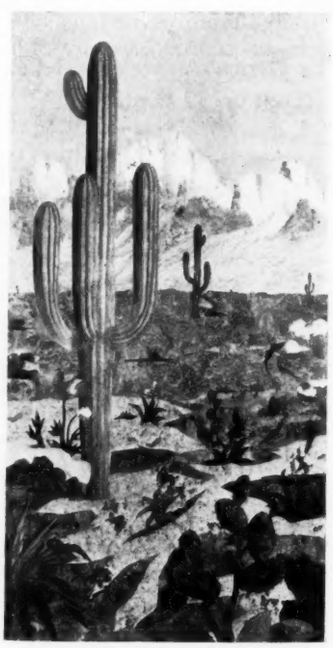
Wood Panels Designed by George Wittbold

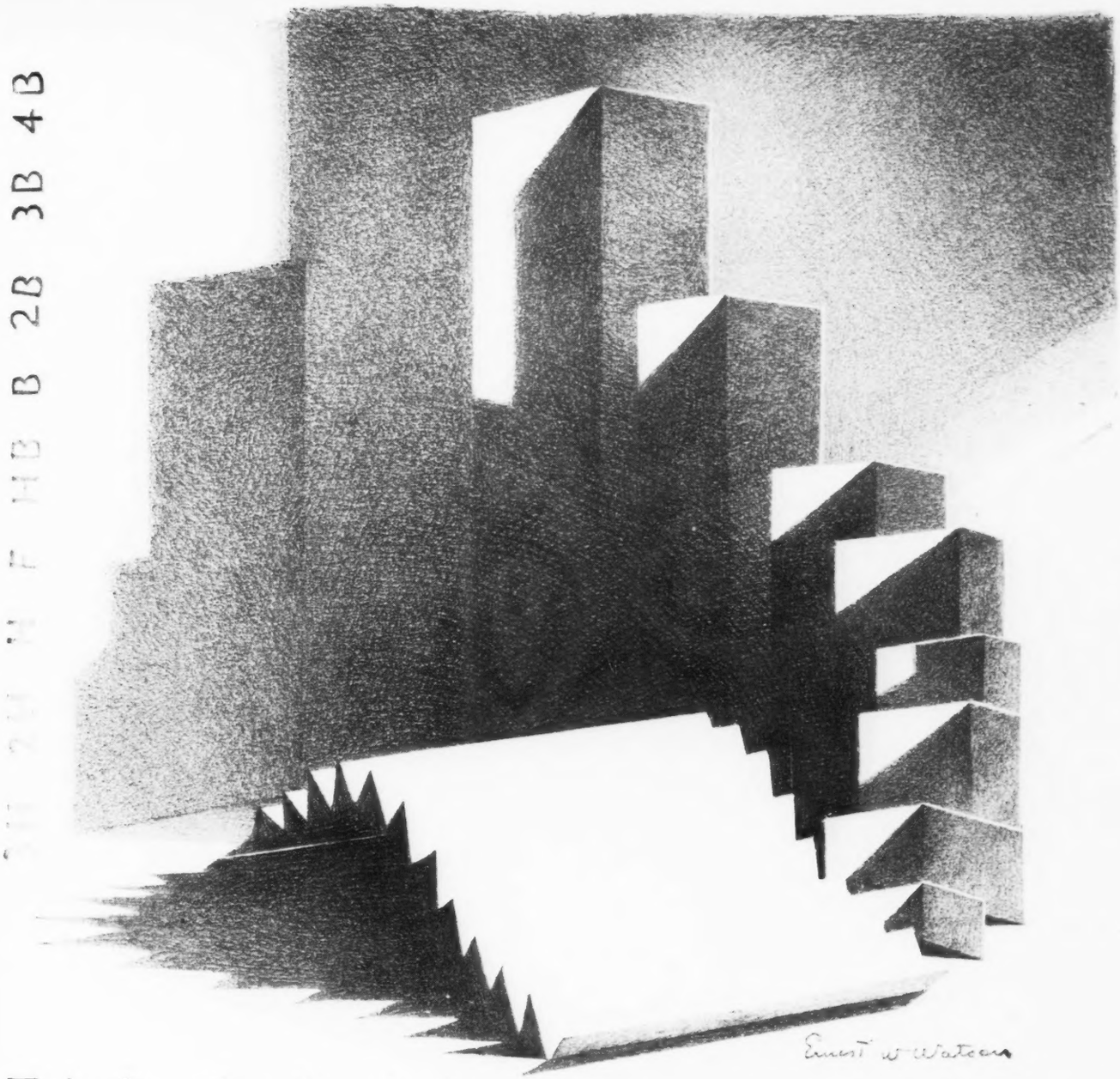
For Setting of Exhibition of General Motors Products

The murals reproduced herewith, designed by George Wittbold, of Chicago, are two of nine panels which represent landscapes of different parts of the United States, showing the characteristic atmosphere of the various regions. The color effects are obtained through the use of twenty-seven different woods.

From the standpoint of fabrication, the work is of particular interest. The special plywoods are softened by steaming and boiling, after which they are readily bent in any direction and in curves of very short radius. In this process, the outer fibres of the wood retain their original length and almost the entire deformation is confined to the upsetting of the other fibres. By designing the panel in the bent position, the fibres assume a permanent set after they are incorporated in the design.

In the execution of the panels Mr. Wittbold was assisted by Miklos Gaspar, an Hungarian, and Matt Faussner, a young German. Mr. Gaspar has been in the United States about twelve years. His individual work graces the Fisher Building, Detroit; Medinah Athletic Club and Foreman Bank Building, Chicago; and many churches. He has won several of the art prizes offered by *The Chicago Tribune*. Mr. Faussner has devoted the three years of his life spent in the United States to making inlays and matching fine woods for furniture; he is responsible for the cutting of the wood inlays and fitting them together in these panels.





ELDORADO
THE MASTER DRAWING PENCIL

THIS might be called a "seventh day" drawing. Because we took time off in the building of our new world — scenes of which, sketched by Ernest W. Watson with Eldorado, the master drawing pencil, are appearing in *Pencil Points* monthly — to arrange a pure abstraction and sketch it.

The result was this study of light and shadow — from which any one with a desire to improve his pencil work can gain helpful hints on light and shade and general tone composition.

The models are made of paper, of course — *white* paper, because grays or colors are confusing when flooded with the bright light necessary for shadows. You can cut out a few yourself, set them up in interesting arrangements, and throw a brilliant light on them. Move the light around to get a good combination of shadows.

Then sit yourself down with a complete range of Eldorado, the master drawing pencil — because in sketching these abstracts you'll need a pencil with a smooth, even lead and degrees on which you can depend. We say this because Mr. Watson suggests that you use patience instead of a stump to gain your tone effects. The directional flow of pure strokes adds charm to the finished effect.

Beside Eldorado, the only other thing used in this particular drawing was a kneaded eraser — to "pick off" certain overemphases of tone that Mr. Watson, in perhaps an enthusiastic moment, had applied.

A tip: in laying in the tones at the start, the leads can be dull, making broad strokes. But in finishing, the leads should be pointed, often extremely sharp, so as to fill in between the first strokes. Joseph Dixon Crucible Company, Dept. 167-J, Jersey City, N. J.

SERVICE DEPARTMENTS

THE MART. In this department we will print, free of charge, notices from readers (dealers excepted) having for sale, or desiring to purchase books, drawing instruments, and other property pertaining directly to the profession or business in which most of us are engaged. Such notices will be inserted in one issue only, but there is no limit to the number of different notices pertaining to different things which any subscriber may insert.

PERSONAL NOTICES. Announcements concerning the opening of new offices for the practice of architecture, changes in architectural firms, changes of address and items of personal interest will be printed free of charge.

FREE EMPLOYMENT SERVICE. In this department we shall continue to print, free of charge, notices from architects or others requiring designers, draftsmen, specification writers, or superintendents, as well as from those seeking similar positions. Such notices will also be posted on the job bulletin board at our main office, which is accessible to all.

SPECIAL NOTICE TO ARCHITECTS LOCATED OUTSIDE OF THE UNITED STATES: Should you be interested in any building material or equipment manufactured in America, we will gladly procure and send, without charge, any information you may desire concerning it.

Notices submitted for publication in these Service Departments must reach us before the fifth of each month if they are to be inserted in the next issue. Address all communications to 330 West 42nd Street, New York, N. Y.

THE MART

David P. Renton, 38 Bank Street, Timaru, New Zealand, would like to obtain a copy of the July, 1926, issue of PENCIL POINTS.

Joseph P. Koski, 13 Alpine St., Worcester, Mass., would like to obtain, gratis, copies of PENCIL POINTS up to and including March issue. Postage will be paid by him.

Joseph R. Kordys, 264 New York Avenue, Newark, N. J., would like to buy, or receive free of charge, architectural magazines such as PENCIL POINTS, *Architecture*, *Architectural Record*, etc., for the years 1900 to 1932, inclusive. He will pay postage.

Myer Silverman, 12 Sutton St., Mattapan, Mass., has for sale a complete set (2 vols.) of Charles Dana Gibson's illustrations. Books 11½" x 17½", drawings same size as originals. State price.

George Westra, 445 Diamond Ave., S. E., Grand Rapids, Mich., has the following copies of PENCIL POINTS for sale, all in excellent condition: 1921, 1922, 1923, 1924, 1928, and 1929, complete; September through December, 1927; January through September, 1930; January and February, 1925; June, September, October, November, and December, 1931. Will sell all or part. Make offer.

Atelier Rectagon of Buffalo, 75 West Eagle Street, Rear, Buffalo, N. Y., would like to purchase second-hand editions of *Styles of Ornament*, by Speltz, and *History of Architecture*, by Fletcher. Mark communications for the attention of Mr. T. G. Hoepfinger, Librarian.

Walter Brach, 6935 Limekiln Pike, Philadelphia, Pa., has for sale the following copies of PENCIL POINTS: 1922, 1923, 1925, 1926, 1928, complete; all except March, April, May, and June, for 1924; all except March and November, of 1927; January, 1929.

Earl Billings, 224 N. Karlov Ave., Chicago, Ill., has for sale a new copy of Harbeson's *Study of Architectural Design*, price $4.75, C.O.D.

Sydney S. Sylvester, 3050 Perry Avenue, Bronx, N. Y., has for sale all copies of PENCIL POINTS from June, 1920, to December, 1932, inclusive, price 35c per copy.

S. J. Novotnick, 45 East 17th St., Room 816, New York, N. Y., would like to exchange the following for books on Colonial or residential architecture: *Modern French Iron Works; Modern French Architecture; Structural Steel Drafting and Elementary Design*, by Conklin, Jr.; *Good Practice in Construction*, Part I, by Knobloch; *Brick Work in Italy; Architectural Rendering in Wash*, by Magonigle; *Steel Construction*, by Burt; *Study of the Orders* (3 volumes); *Strength of Materials*, by Maurer; *Free-hand and Perspective Drawing*, by Lawrence; *The Treatment of Interiors*, by Clute; *Reinforced Concrete Construction*, Vol. I, by Hool; *Elements of Form and Design in Classic Architecture*, by Arthur Stratton; *A Manual of Architectural Composition*, by Haneman; *The Domestic Architecture of England during Tudor Period*. He would like to purchase a chest of drawers for filing blueprints and tracings, approximate size 33½" wide and 44" long.

Lorenzo Hamilton, 22 Church Street, Meriden, Conn., has a collection of 500 Alinari and Anderson photographs of architectural subjects, such as palazzi, cathedrals, famous paintings, decoration and sculpture covering Antique and Renaissance periods from 56 Italian cities. Ideal for large office or architectural school. May be inspected by paying parcel post charges.

PERSONALS

ALDEN DE HART, ARCHITECT, formerly of New York, is now conducting a general practice of architecture at Rahway Rd., Plainfield, N. J.

WM. ELLIOTTE CAISSE, ARCHITECT, has opened an office for the practice of architecture at 180 N. Willard St., Burlington, Vt.

MICHAEL RAPUANO has established an office for the practice of landscape architecture at 411 East 51st Street, New York, N. Y.

KILHAM, HOPKINS & GREELEY, ARCHITECTS, have opened new offices at 126 Newbury Street, near Dartmouth, Boston, Mass.

EDWARD F. GATES and L. WHITNEY STANDISH, ARCHITECTS, have formed the partnership of Gates & Standish for the practice of architecture, with offices in the National Bank Bldg., Beverly, Mass.

JOHN LOUIS WILSON, ARCHITECT, has moved his office from 261 West 125th Street to 57 West 125th Street, New York.

MANUFACTURERS' DATA WANTED

REQUESTS FOR manufacturers' literature have been received from the following:

CLYDE F. TRUDELL, ARCHITECT, Box 392, Williamsburg, Va.

JOHN I. EASTERLY, ARCHITECT, 302 Grant Street, Healdsburg, Calif.

W. B. HUFF, ARCHITECT, 309 Ontario Street, Akron, Ohio (for residential and commercial projects).

GATES & STANDISH, ARCHITECTS, National Bank Bldg., Beverly, Mass.

(Continued on page 22)

EMPLOYMENT SERVICE ITEMS WILL BE FOUND ON PAGE 24, ADVERTISING SECTION

Why Escalators

were installed in the Metropolitan Life Building

The problem: In the new building of the Metropolitan Life Insurance Company, of New York City, the restaurants were placed at the second and third basement levels—thirty-four and forty-eight feet below the ground. At lunch time a great crowd of people (eight thousand employees in the first unit alone) would want to go to these restaurants and afterwards to the street before returning to work. How could the traffic of this noon-hour crowd be handled without throwing a great burden on the elevators and demoralizing service to upper floors?

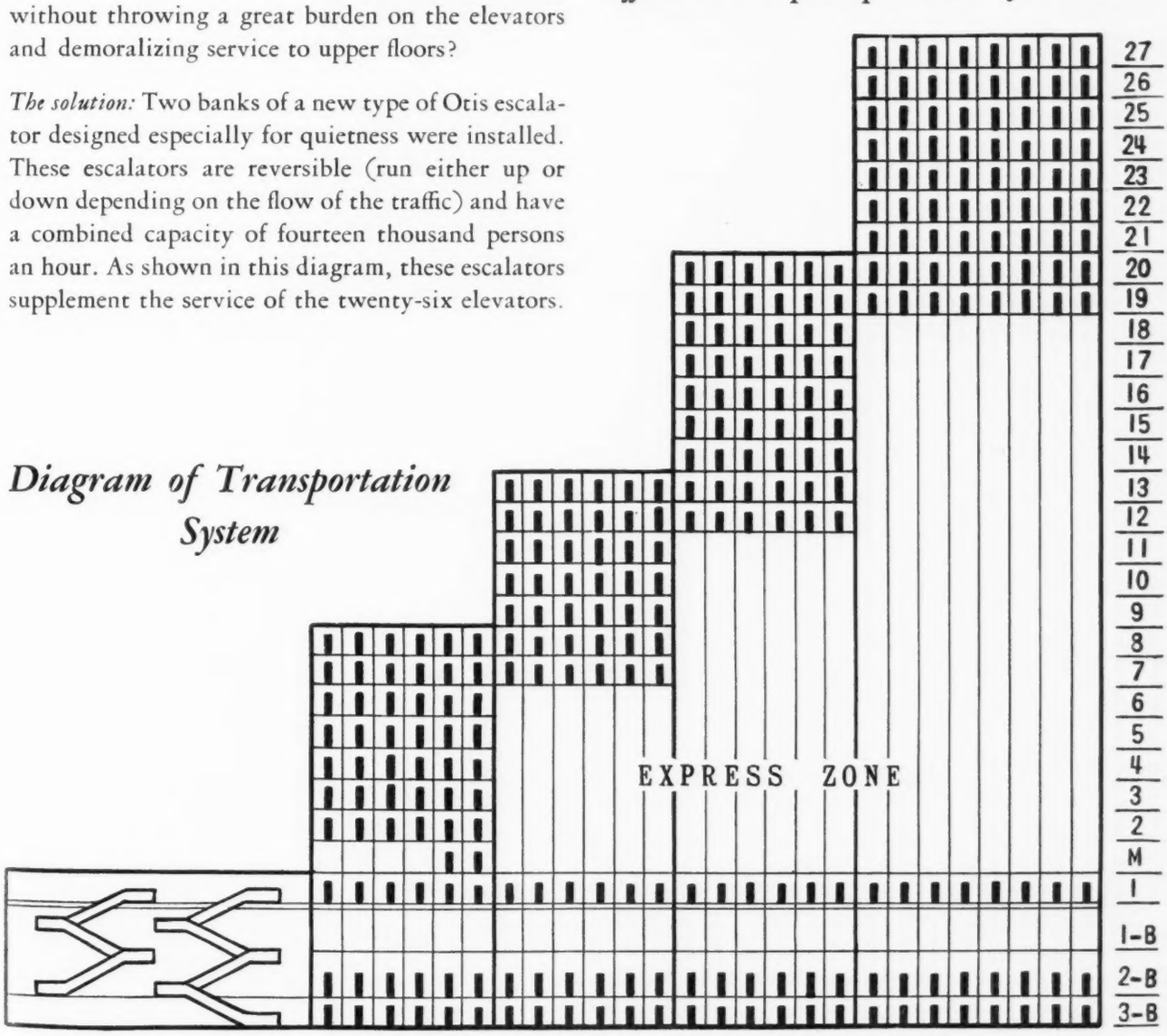
The solution: Two banks of a new type of Otis escalator designed especially for quietness were installed. These escalators are reversible (run either up or down depending on the flow of the traffic) and have a combined capacity of fourteen thousand persons an hour. As shown in this diagram, these escalators supplement the service of the twenty-six elevators.

Wherever a great throng must be carried a short vertical distance in the least possible time, escalators help solve the transportation problem—and here is an important point: *Many an old building may be transformed into a modern paying investment through the help of escalators.*

OTIS ELEVATOR COMPANY

Offices in the principal cities of the world

Diagram of Transportation System



Publications on Materials & Equipment

Of Interest to Architects, Draftsmen and Specification Writers

Publications mentioned here will be sent free unless otherwise noted, upon request, to readers of PENCIL POINTS *by the firm issuing them. When writing for these items please mention* PENCIL POINTS.

Masterseal All-Weather Waterproofing.—New folder describing a recently-perfected colorless waterproofing which can be applied to either dry or wet masonry surfaces, including stucco, brick, concrete, stone and cast stone. Application data. 4 pp. 8½ x 11. The Master Builders Co., 7016 Euclid Ave., Cleveland, Ohio.

Pyle-National Heavy Duty Plugs and Receptacles.—A.I.A. File No. 31-c-7. Bulletin 179, just issued, lists and illustrates a new line of heavy-duty plugs and receptacles for use with portable tools, appliances and heating units. Included is data on a line of receptacles particularly adapted to use in office buildings, institutions and residences. 8 pp. 8½ x 11. The Pyle-National Co., 1334 North Kostner Ave., Chicago, Ill.

Properties of Toncan Iron.—New folder containing comprehensive data on the various properties of Toncan copper molybdenum iron. Republic Steel Corporation, Massillon, Ohio.

Lighting the World's Greatest Theatres.—New bulletin with color illustrations describing the stage and general auditorium lighting equipment installed in the Radio City Music Hall and the RKO Roxy Theatre. 8½ x 11. Kliegl Bros., 321 West 50th St., New York, N. Y.

Milcor Metal Access Doors.—Folder covering a new line of metal access doors which permit key points in plumbing, heating, electrical and refrigeration systems to be reached easily and conveniently. Milcor Steel Co., Milwaukee, Wis.

Pix Equipment and Supplies.—Catalog No. B-60 lists and illustrates a complete line of equipment and supplies for hotels, restaurants, clubs, soda fountains, etc. 8½ x 11. 48 pp. Albert Pick & Co., 1200 W. 35th St., Chicago, Ill.

Winslow Beam Calculator.—A.I.A. File No. 35-h-33. Bulletin giving complete information covering the Winslow strength computing slide-rule, a direct-reading, calculating device for solving beam problems. 4 pp. 8½ x 11. Henry W. Tomlinson, 611 Morris Bldg., Joliet, Ill.

Bronze by Newman.—Folder showing several designs of flush type grave markers and miscellaneous bronze work. Newman Bros., Inc., 418 Elm St., Cincinnati, Ohio.

Modern Fixtures for Beer Service by Brunswick.—New catalog showing designs of various styles of beer service fixtures and counter cooler workboard units. Descriptive data, drawings showing cupboard and drawer arrangement of various length standard back counters. 20 pp. 9½ x 11½. The Brunswick-Balke-Collender Co., 623 S. Wabash Ave., Chicago, Ill.

Inconel Screen Cloth.—A.I.A. File No. 35-p-1. Architects' reference bulletin No. A-4 presents complete descriptive data on a newly-developed screen cloth, made from a metal alloy, Inconel. Test data, modern screen details. 4 pp. 8½ x 11. International Nickel Co., 67 Wall St., New York, N. Y.

Westinghouse Elevator Equalizer.—Bulletin describing a new elevator equalizer, which automatically provides for compensating changes in the length of elevator cables and for distributing the load with equal tension on all cables. Westinghouse Electric Elevator Co., 1500 N. Branch St., Chicago, Ill.

Pennvernon Window Glass.—Brochure in colors describing briefly the process in the making of Pennvernon window glass. Specification data sheet accompanies brochure. 16 pp. 8½ x 11. Pittsburgh Plate Glass Co., Grant Bldg., Pittsburgh, Pa.

Alundum Ceramic Mosaic Tile.—A.I.A. File No. 23-a-1. Catalog B gives complete descriptive, specification and application data covering Alundum ceramic mosaic tile. 4 pp. 8½ x 11. Norton Company, Worcester, Mass.

The Shaw Radiator.—A.I.A. File No. 30-c-4. New descriptive folder covering the Shaw radiator for use in domestic heating and Shaw-Perkins high convection radiators for industrial installations. 4 pp. 8½ x 11. Shaw-Perkins Mfg. Co., Oliver Bldg., Pittsburgh, Pa.

Crane Siwelclo Siphon Jet Closet.—Bulletin explaining the features of a new quiet-acting siphon jet closet especially suitable for residences, apartments, hotels, clubs, etc. Crane Co., 836 S. Michigan Ave., Chicago, Ill.

Published by the same firm, "Crane Sanitary Showers." Descriptive folder showing several styles and sizes of compression and mixing valve showers.

Climator II.—Catalog dealing with the Climator air conditioning system for homes. Descriptive data, dimension drawings, capacity tables. 8 pp. 8½ x 11. L. J. Mueller Furnace Co., Milwaukee, Wis.

Dragon Super Cement.—A.I.A. File No. 3-a-3-7. New catalog giving complete descriptive, specification and application data covering a type of high early strength cement suitable for use in concrete structures, swimming pools, floors, steps, porches, driveways, sidewalks, etc. Profusely illustrated. 24 pp. 8½ x 11. Lawrence Portland Cement Co., 270 Broadway, New York, N. Y.

Sylphon Steam-Water Mixer.—Bulletin with descriptive data and capacity tables covering a new device for mixing steam with water to heat the water to the required degree of temperature, especially adaptable for washing machines, industrial washrooms, processing vats, etc. Fulton Sylphon Co., Knoxville, Tenn.

Convectofin—The Built-In Heater.—A.I.A. File No. 30-c-4. Bulletin No. 19. Useful collection of test data and tabular matter pertaining to the Convectofin built-in radiator. 4 pp. 8½ x 11. Commodore Heaters Corp., 11 West 42nd St., New York, N. Y.

Royal Faucets and Fixtures.—New folder illustrating a wide range of Artline shower, tub and lavatory fixtures, shampoo and lavatory fixtures, shampoo and lavatory faucets, cast brass staples and urn gauges, urn, cooler, push button, filter, refrigerator, ice cream cabinet and percolator faucets. 4 pp. 8½ x 11. The Royal Brass Mfg. Co., Cleveland, Ohio.

Saylor's Waterproofed Cement.—A.I.A. File No. 3-a-1 and 3-b-4. Bulletin announcing and describing the advantages of Saylor's waterproofed portland cement, in which an admixture of R.I.W. Toxement, a colloidal compound, at the mill, is used as the waterproofing element. 4 pp. 8½ x 11. Coplay Cement Mfg. Company, 521 Fifth Ave., New York, N. Y.

Forestblend Finzer Face Brick.—A.I.A. File No. 3-f-2. New brochure illustrating typical Forestblend panels and other Finzer face brick, including the new Grandeur line in full colors. Included is color guide embracing the entire scale of shades and colors in the Forestblend line. 16 pp. 8½ x 11. The Finzer Bros. Clay Co., Sugarcreek, Ohio.

The New Frigidaires.—Illustrated catalog announcing new line of Standard Series Frigidaires that use no more electric current than one ordinary lamp bulb. Included is descriptive and specification data covering the line of Super Series Frigidaires. 16 pp. Frigidaire Corp., Dayton, Ohio.

MANUFACTURERS' DATA WANTED

(Continued from page 20)

ALDEN DE HART, ARCHITECT, Rahway Road, Plainfield, N. J.

WM. ELLIOTTE CAISSE, 180 N. Willard St., Burlington, Vt. (also prices).

TRUMAN J. HEMMER, architectural delineator, 237 Northampton St., Buffalo, New York (do not send salesmen).

ROBERT A. EDWARDS, LANDSCAPE ARCHITECT, Beverly, Mass. (catalogs pertaining to landscape architecture).

ROBERT A. KRUEGER, draftsman, c/o Hoffman Lumber Co., Ft. Atkinson, Wis.

MARTIN JUHOLA, draftsman, 728—41st St., Brooklyn, N. Y. (for A.I.A. file).

HARRY R. HUMPERT, student, 2107a So. Jefferson Ave., St. Louis, Mo.

MITCHELL P. DIRSA, student, 22 Carroll St., Exeter, N. H.

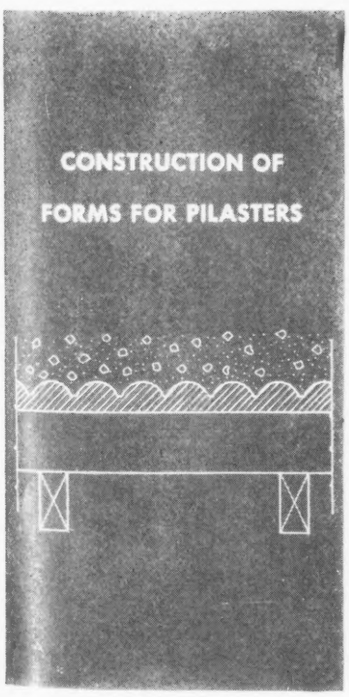
JOSEPH J. MARR, student, 145 Poplar St., Wyandotte, Mich.

HYMAN RUBIN, student, 159 East 96th Street, New York, N. Y.

ELWOOD H. EVENSON, student, 181 Lexington Ave., Port Richmond, S. I., N. Y.

ARCHITECTS' AND BUILDERS' EXHIBIT, 72 Franklin St., Rochester, N. Y. (for A.I.A. file).

MONOLITHS IN CONCRETE



Concrete Sets a Magnificent Stage for Greater Sales

Decorative features of this building are architectural concrete, cast in place. Panels above the doors were cast from plaster waste molds built into the forms. Flutings in the pilasters were cast in wooden forms constructed as shown in the accompanying sketch. Plain wall surfaces were produced by rubbing in a cement wash with a carborundum brick.

Widely varying color effects can be obtained in monolithic concrete through the use of tinted cement paints.

Monolithic concrete is an ideal material for stores and other commercial buildings where appearance plays an important part in attracting customers. Write us for further information.

PORTLAND CEMENT ASSOCIATION 33 W. GRAND AVE., CHICAGO
CONCRETE FOR PERMANENCE

A Free Employment Service for Readers of Pencil Points

Replies to box numbers should be addressed care of PENCIL POINTS, 330 West 42nd Street, New York, N. Y.

Position Wanted: Architectural draftsman, 27 years old. Experienced on apartment houses, office buildings, residences and manufacturing buildings. Have had quite a bit of experience on alteration jobs of all types, and have been architect on many of my own private jobs. Very familiar with building department work. Will work for any reasonable offer. Will you grant me an interview? Box No. 500, care of PENCIL POINTS.

Position Wanted: What have you to offer a man, married, age 32, two children, considered good draftsman, honest and dependable. Experience embraces cottage design and construction supervision. Thoroughly experienced in steel windows, radiator enclosures and silent forced ventilation (design, fabrication and sale of same). Thorough experience in stone (detail, design, fabrication and erection). Harold Shipley, P. O. Box 97, Mt. Airy, Maryland.

Wanted: Men interested in selling bronze signs to architects. Box No. 501, care of PENCIL POINTS.

Position Wanted: Architect, draftsman and designer, over 20 years' diversified experience in leading New York City offices. I am thorough, practical and especially qualified in taking care of work from preliminary sketch to completed plans, also supervise construction work. Box No. 502, care of PENCIL POINTS.

Position Wanted: Young man, 24, single, two years College of Architecture at University of Minnesota Night School, and some experience in the field, will go anywhere for experience. Salary to cover living expenses only. Complete information on request. Karl A. Aurelius 1729 East Minnehaha, St. Paul, Minn.

Wanted: One of the leading Westchester County architects has an opportunity for a young man who desires to make architecture his career. Applicant must have fulfilled the educational requirements for registration so that he may obtain same after the requisite office experience. Westchester resident preferred. Remuneration nominal at present but will be increased in accordance with applicant's value and general business conditions. Opportunity for right man to work himself into junior partnership. Box No. 503, care of PENCIL POINTS.

Position Wanted: Architectural designer, draftsman, 28 years of age and married. Eight years' office experience in addition to teaching architectural design for two years in a well known school. Would like permanent position paying a nominal salary at present which will increase as business improves. Box No. 504, care of PENCIL POINTS.

Position Wanted: Architectural student with four years of training in New York University and one year's experience in actual construction of buildings wishes position in architect's office or any office which has something to do with building construction. Single. Ambitious. Salary—will appreciate any proposition. Experience main object. Box No. 505, care of PENCIL POINTS.

Position Wanted: Architectural student desires position in architect's office. Experience main object. References and samples of work furnished. Hyman Rubin, 159 East 96th Street, New York, N. Y.

Position Wanted: Senior draftsman, 12 years' well-rounded experience in architectural profession. Nominal salary acceptable. Box No. 506, care of PENCIL POINTS.

Representative Available: Manufacturers and others seeking economical representation in Mid-Atlantic states to reduce expenses or supplement efforts of existing staff should be interested in my proposition. Registered architect and engineer, 23 years' experience includes industrial, public works and residential construction; foreign (principally South American) materials exploration, development, and negotiation for American manufacturers; purchasing material and equipment for construction; sales promotion. Have operating office near New York City. Box No. 510, care of PENCIL POINTS.

Position Wanted: Is there an architect with an office and an established practice, now dormant or partially inactive, who would like to take into his office a college graduate, 26 years of age, who is a registered architect in the state of Ohio paying him a salary sufficient only to meet his expenses at this time, but with the intention of making him a member of the firm now or in the near future and rescaling his salary when business improved? Architects interested please write Box No. 511, care of PENCIL POINTS.

Position Wanted: Architect registered in New Jersey, American, single, middle-aged caretaker for hotel or residence. Will make minor repairs, also painting and decorating, operate low pressure heating plant, drafting and supervise alteration work. Moderate salary with room and board. Complete information on request. Box No. 512, care of PENCIL POINTS.

Position Wanted: I am 27 years of age and unmarried. I have had several years' experience with architects and contractors, here and abroad. Will go anywhere at very moderate wages. Box No. 514, care of PENCIL POINTS.

Position Wanted: Licensed architect and engineer with 23 years' work-wide professional and sales experience, having operating office near New York City, desires to represent responsible company in buying, sales or executive capacity. Box No. 515, care of PENCIL POINTS.

Position Wanted: Los Angeles preferred location, no objection to any permanent location. Three years' college architectural engineering, four years' technical experience. Expert typist. Detailed information as to experience and character reference as required. Age 26, married. E. Minor, 224 N. Karlow Avenue, Chicago, Ill.

Wanted: Salesman to call on architects, artists, art schools, with line of transparent water colors. 25% commission. Circolo Color Co., 118 East 28th Street, New York, N. Y.

Position Wanted: Japanese young man, age 21, graduate of Heald's Engineering College desires position in architect's or builder's office. Salary no object. Experience main incentive. Harry Ikemoto, Route 1, Box 196-C, Sacramento, Cal.

Position Wanted: Stenographer-secretary—two years' experience in engineering and construction and two in advertising agency. One year of College. Desire opportunity with architectural organization or with publication in this City. Mildred A. Coates, 3304 Archwood Avenue, Cleveland, Ohio.

Position Wanted: Someone needs exactly what I have to offer: ability, accuracy, neatness, diversified experience gained from individual practice. Degree from accredited university. Preferably New York City or vicinity. Box No. 509, care of PENCIL POINTS.

Position Wanted: I am 23 years old and married. I have had seven years' drafting and designing experience. Last employed by one of the largest architectural offices in the south. Location immaterial. Salary to meet expenses. College graduate with good working knowledge of period architecture. Experienced in structural as well as architectural lines. Excellent references. Clifford J. Lane, 2015 North Billen Street, Oklahoma City, Oklahoma.

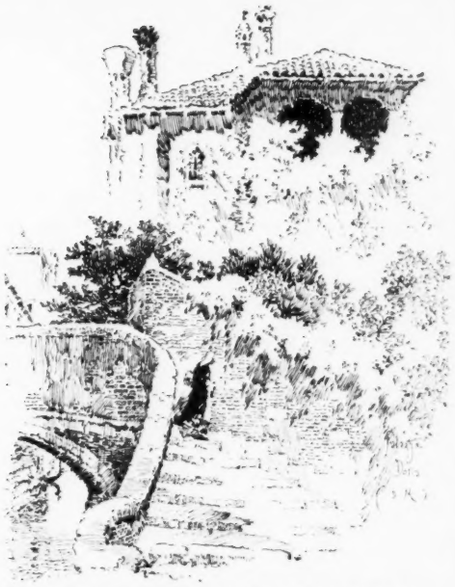
Position Wanted: For $20 a week I would like any position for which my experience qualifies me. Six years' experience as designer, draftsman, engineer, superintendent, on schools, apartments, churches, jails, office and store buildings, public buildings, factories and residences, in Middle West and Pacific Coast. Able to get new business. Experienced appraiser. Age 29, married, Protestant, temperate habits. Graduate in architecture, University of Michigan and Southern California. Registered architect and engineer. Go anywhere here or abroad. Harold V. Maurer, 1926 E. Jefferson Boulevard, South Bend, Indiana.

Wanted: Information leading to correspondence with individuals who have acted professionally as Building Investment Counsellors. The work would involve a complete analysis of costs, operating expenses and income factors arising in the promotion of building and real estate projects. R. G. Deanmead, 115 Woodland Avenue, Columbus, Ohio.

Position Wanted: Architectural designer, located in Massachusetts, 20 years' experience in first class ecclesiastical work, colleges, banks and domestic work. Seven years in own practice. Would be glad to render temporary assistance. Box No. 508, care of PENCIL POINTS.

Position Wanted: By experienced senior architectural draftsman. Bartlett White, Lenoir City, Tennessee.

Position Wanted: Architectural man, married, 34 years of age, 15 years' experience, desires position as draftsman, architect's or building construction engineer's office. Have held position 6 years as supervisor of architectural drafting for building alteration. Box No. 507, care of PENCIL POINTS.



GILLOTT PENS

The illustration shown above, by Charles D. Maginnis of Brookline, Mass., was drawn with Gillott Pens 303 and 404.

For over a hundred years, leading architects and artists have found the wide variety of steel pens made by Gillott well suited for various kinds of technique.

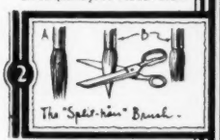
At leading dealers—or send 24c in stamps for a sample set of Gillott Drawing Pens, six popular points.

JOSEPH GILLOTT & SONS, Ltd.
93 Chambers Street, New York

HIGGINS' INK HINTS

BEING A SERIES by ARTHUR·L·GUPTILL

For "dry-brush" work any brush will do. Select rough paper, dip brush and rub over trial paper as above, until lines of the desired quality are discovered.



For "split-hair" brush work use a brush which tends to separate as at "A", or cut point from old brush as at "B". Experiment with many strokes on varied surfaces.

Effective drawings can be made wholly in "dry brush" or "split-hair" brush, or in the two combined as in the accompanying sketch. The pen may be used for detail.

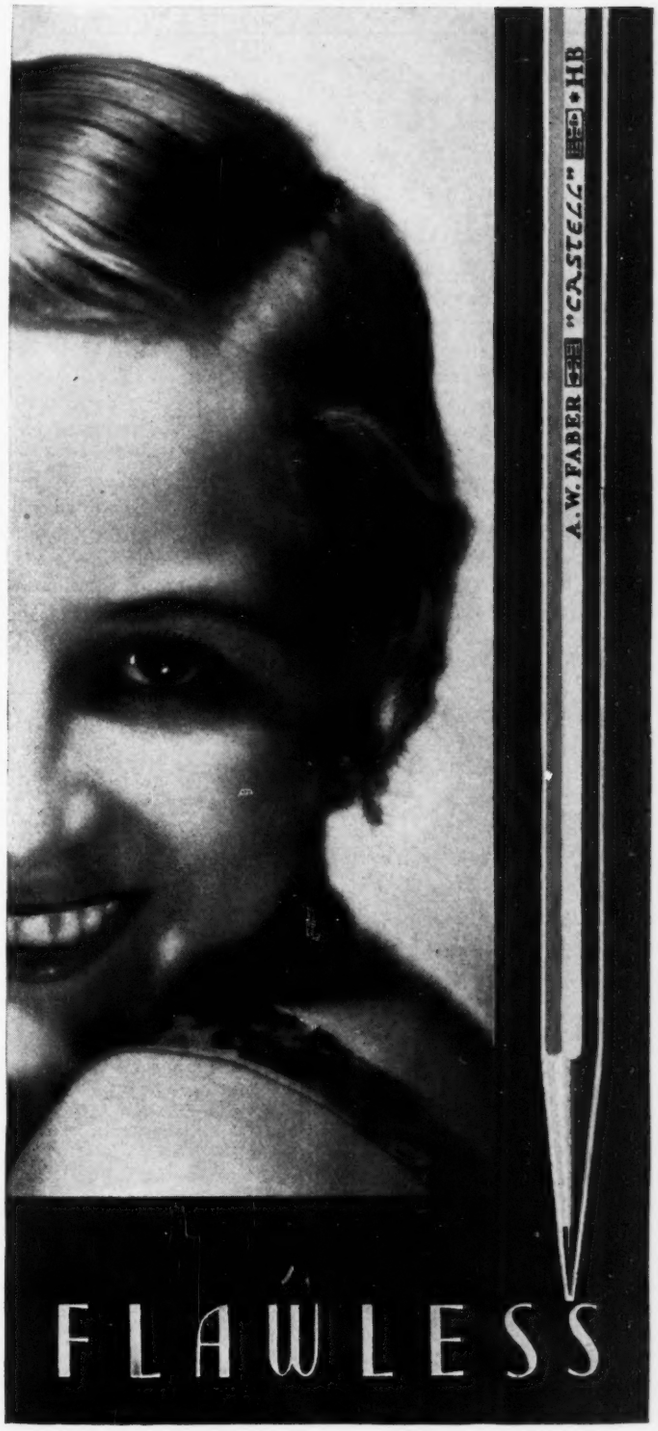
This method is especially effective if carried out in one or more of the eleven **Colored Inks by HIGGINS**

DRAWN WITH "DRY-BRUSH" AND "SPLIT-HAIR" BRUSH

HERE is a unique method of working, offering great possibilities, particularly when large areas are to be covered or rough textures shown. By varying paper and brushes almost no end of individual effects are obtainable. Drawings done in this manner, if in black and white, reproduce inexpensively and well. Look through the newspapers and magazines for additional examples; then apply the method.

REPRINTS OF THIS DRAWING, AND OTHERS OF SIMILAR NATURE TO FOLLOW, ARE YOURS FOR THE ASKING. SHALL WE PUT YOUR NAME ON OUR LIST?

chas. m. higgins & co., inc.
271 NINTH STREET, BROOKLYN, NEW YORK
OUR INKS ARE CARRIED IN STOCK BY SUPPLY DEALERS EVERYWHERE



Like the radiant skin of a beautiful girl, the "Castell" drawing pencil is without a flaw. Every craftsman looks for these qualities in a real pencil: (1) Accuracy; (2) Smoothness; (3) Strength; (4) Uniformity; (5) Fineness; (6) Gradation of tone. "Castell" has everything! Use it . . . you owe it to your work.

"CASTELL" DRAWING PENCILS

Made by A. W. FABER, Bavaria

"Castell" Polychromos pencils give you the nearest approach to oil color painting; available in 64 colors. Send for free booklet.

A. W. FABER, INC.
NEWARK, N. J., U. S. A.

Announcements of New Products, Changes in Personnel, etc.

NEW DEVELOPMENT IN TERRA COTTA

For the installation of the polychrome terra cotta pool floor, designed by Miss Hildreth Meiere and located in the garden of the Communication Center in the Century of Progress Exposition in Chicago, the method of manufacture by the Atlantic Terra Cotta Co., New York, presents an entirely new development in the terra cotta industry.

The company has devised a method of transferring designs in ceramic colors by which effects similar to mural or ceiling paintings can be easily and economically obtained. This is said to open an almost unlimited field for the use of terra cotta not only for murals but for continuous friezes and other such ornamentation.

The silhouetted figures in the pool floor are in a deep rich blue glaze, a ceramic color which was especially developed for this installation. The background is an Oriental green and the latitudinal and longitudinal lines of the globe are in an ivory white. An ingenious jointing scheme which restrains to a certain extent the circular movement of the figures is an integral part of the design. The joints are of ⅛" width; the terra cotta units which are only 1⅝" thick are of large size in perfect proportion to the large scale of the pool which is 21'11½" in diameter.

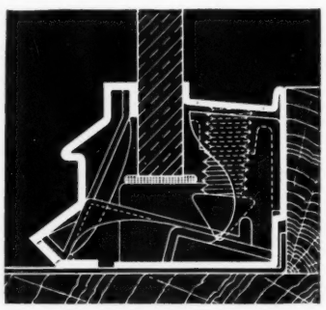
NEW TABULATED BRICK AND STONE SCALES

The W. H. Stevens Co., Minneapolis, Minn., has evolved and is offering to architects and draftsmen a new set of brick and stone scales. They have both the vertical graphical scale and the horizontal graphical scale on the same strip, thus insuring the same vertical and horizontal joint. The figured calculation is right next to the graphical scale so that at one place, the user has the horizontal scale, the vertical scale, the horizontal calculation, and the vertical calculation that before was found on two separate scales and in two separate tables.

There are nine scales in the set of scales made up for nine joint sizes from ¼" to ¾" at intervals of each 1/16 of an inch for the usual size brick. The scales are accurate at ¼" scale. They are printed from plates on heavy buff stock and are enclosed in a heavy manila envelope with the full explanation of their many uses printed on the outside.

NEW KAWNEER SASH

The Kawneer Company, of Niles, Mich., has created and added to its line, a new sash member embodying many improved features together with corresponding sill, transom and jamb mouldings all of which are held in place with concealed screws.



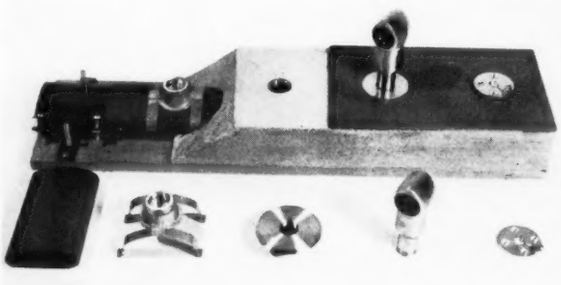
The new Kawneer sash known as their No. 88 is said to possess those qualities essential to a sturdy yet resilient and safe glass setting. It is perforated for drainage and when desired is equipped with a slide for controlling ventilation. It provides for an exceptionally wide grip on the plate glass without the possibility of the plate glass contacting with the tensioning mechanism or screws. To drain moisture from the inside of the glass it has a condensation trough of large capacity.

The mechanism consists of a special conical screw (that cannot be removed after assembling thus preventing loss and misplacement) which functions together with an especially designed screw bracket and face piece draw plate so formed as to cause the outer or face member to be drawn inward and downward thus holding it in perfect alignment regardless of the varying thickness of plate glass.

This sash is available in special Kawneer metal alloys of bronze, aluminum, alumilite and stainless steel in any of the finishes applicable to these nonferrous metals.

GENERAL ELECTRIC COMPANY ANNOUNCES "PRELOKAYLET"

The General Electric Co., Bridgeport, Conn., announces the introduction of the "Prelokaylet," a recently-developed device which is said to permit the installation of outlets



for telephone or lighting circuits quickly, neatly, safely and economically. The device is clamped on the duct at the factory or on the job before pouring the concrete. A magnetic finder locates the center pin of the "Prelokaylet" even when concealed by a floor covering.

The Haskelite Manufacturing Corp., Chicago, Ill., announces the removal of its executive offices to suite 1905-6 208 West Washington St., Chicago, Ill.

NU-WOOD MOULDINGS

The Wood Conversion Company, Cloquet, Minn., makers of Balsam-Wool and Nu-Wood, announce a series of mouldings machine cut from Nu-Wood insulating board. These mouldings were designed primarily for use with the various forms of Nu-Wood panel board, tile and plank. As these products are all made from the same basic mate-

rial their use together is said to give a very harmonious effect not always obtained when materials of varying color, substance and texture are used together.

There are six stock patterns of the new mouldings which may be used singly or combined in innumerable ways to form built-up cove mouldings, panel stripping, trim, pilaster mouldings, etc.

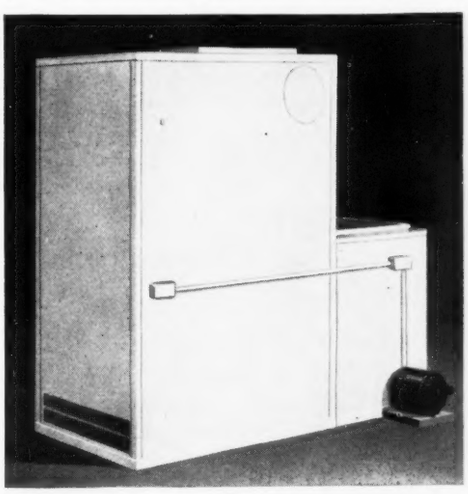
SOLKA, A NEW ROOFING BASE

A highly purified cellulose fibre known as Solka Base to be used in the manufacture of asphalt shingles and prepared roofings is a product of the Brown Company of Portland, Maine, which is being used by various manufacturers of asphalt shingles and prepared roofings throughout the country.

It is claimed that prepared roofings and asphalt shingles made with the Solka fibre have increased flexibility and strength. Solka is recommended in the manufacture of asphalt shingles and roofings to eliminate cracks around nail holes and to provide more flexibility in shaping the shingles and the roofing to the surface. Because of this Solka Base, roofings are claimed to be more durable because of the higher percentage of asphalt which they contain.

TRANE CLIMATE CHANGER

In the Trane Climate Changer, recently introduced by the Trane Co., LaCrosse, Wis., a complete, automatic air conditioning machine is offered for installation in both new and old homes in the moderate priced field. The unit combines five separate comfort producing systems; oil or gas burning system; forced air heating system; humidifying system; air cleaning system and cooling system.



Basically the Trane Climate Changer operates as a forced air heating system which properly tempers, humidifies and circulates the air. The heated air is carried to the rooms by ordinary sheet metal ducts and distributed by individual room registers. Cooled air is taken from the floor at various points in the house and carried back to the Climate Changer through other ducts to be reheated, cleaned and humidified.

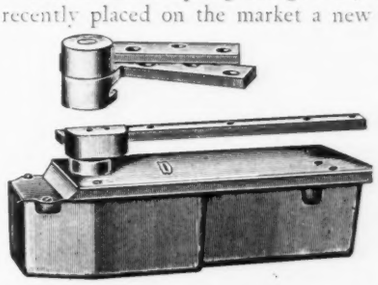
INCONEL SCREEN CLOTH

Announcement is made of a new product Inconel screen cloth, which is made from a new metal alloy, Inconel, produced by the International Nickel Co., Inc., New York. The screen cloth is manufactured by the C. O. Jelliff Manufacturing Corp., Southport, Conn.

Among the advantages claimed for this new screen cloth is that it will hold its color, besides offering practically complete resistance against corrosion and that there will be no leachings to discolor the frame or exterior stone, brick or stucco.

NEW CHECKING FLOOR HINGE

The Bommer Spring Hinge Co., Brooklyn, N. Y., has recently placed on the market a new checking floor hinge that is especially adaptable for entrance and corridor doors, interior partition doors, etc. It is adjustable for any conditions of exposure to wind currents and drafts, and suitable for both metal and wood doors. Besides being thoroughly tested, it is perfected and fully guaranteed.



THE ALLEN ELECTRO-WIND TURBINE VENTILATOR

In the development of the Allen Electro-Wind Turbine Ventilator by the Allen Corporation, Detroit, Mich., an entirely new type of exhauster has been introduced to the ventilating field.

As a wind-operated ventilator, under normal conditions, it is said to function efficiently and conserve power. Electrically operated, it is a blower exhausting a definite, predetermined amount of air regardless of temperature difference, wind velocity and direction, or other variable conditions. The worm-geared-head motor and clutch are mounted on top of the rotor, leaving the throat of the ventilator absolutely clear of obstructions. This means that inflammable gases, steam, dust or particle-laden air may be handled without costly explosion-proof motors and other special equipment.

The Allen Electro-Wind Turbine requires no penthouse, as the wind, regardless of direction or velocity, actually aids the exhaust of the unit. It is easily installed on any standard ventilator base, and in most cases may be plugged into a lighting circuit for power connection.

Library JUN 1 9 1933

Index to Advertisers

Advertising Office: 330 West 42nd Street, New York, N. Y. Philip H. Hubbard, *Vice Pres. and Adv. Mgr.*
District Offices: 1050 Straus Building, Chicago; 703 Market St., San Francisco

American Sheet & Tin Plate Company ..... Back Cover
Atlantic Terra Cotta Company, The 1

Beaux-Arts Institute of Design 32

Cabot, Samuel, Inc. 6
Carnegie Institute of Technology 32
Chalfonte-Haddon Hall 27
Cutler Mail Chute Company 7

Dixon, Joseph, Crucible Company 19
Duriron Company, Inc., The 4

Eagle-Picher Lead Company 3

Faber, A. W., Inc. 29
Faber, Eberhard 10
Field, Alfred, and Company, Ltd. 29

Gillespie Brothers, Inc. 7
Gillott, Joseph, & Sons, Ltd. 29

Higgins & Sons, Chas. M. 29
Hope's Windows, Inc. 27

International Nickel Company 2

Jones & Laughlin Steel Corporation ..... 2nd Cover

Kohler Company 25

Leonard-Rooke Company 6
Libbey-Owens-Ford Glass Company 8

Mueller Mosaic Company 33

Newport Rolling Mill Company 25

Otis Elevator Company 21
Owens-Illinois Glass Corporation, Industrial Materials Division ..... 3rd Cover

Pittsburgh Steel Company 7
Portland Cement Association 23

Republic Steel Corporation 34
Ric-wiL Company, The 6

Sargent, J. D., Granite Company 33
Scovill Manufacturing Company 12

Vonnegut Hardware Company 5

Wilson Engineering Corporation 32
Wood Conversion Company ..... Back of Frontispiece

SUMMER COURSE

ARCHITECTURE

Six weeks' course, beginning June 19 and ending July 28, in Design, Rendering, and Water Color. For catalog, address Director of Summer Session.

CARNEGIE
INSTITUTE OF TECHNOLOGY
PITTSBURGH, PENNSYLVANIA

EXAMINATIONS FOR REGISTRATION

of architects contain some work in Structural Engineering. For many candidates this is the most difficult subject. We have now prepared a new course of Home Study (by Mail Only) in

ARCHITECTURAL ENGINEERING

designed to supply a practical training in all the essentials of Structural Engineering which would be required in any ordinary examination for registered Architect. Send for literature TODAY.

WILSON ENGINEERING CORPORATION
College House Offices Harvard Square
Cambridge, Massachusetts, U. S. A.

BEAUX-ARTS INSTITUTE OF DESIGN
304 East 44th Street, New York, N. Y.
Nominal Fee for Instruction in
ARCHITECTURAL DESIGN, SCULPTURE, INTERIOR DECORATION, MURAL PAINTING COMPOSITION
In cooperation with other educational institutions
COURSES IN SCULPTURE IN ALL ITS BRANCHES AT THE INSTITUTE
Instruction founded on the principles of the Ecole des Beaux-Arts of Paris
Circular on Application

Spring Back Binders for Pencil Points
Two-inch Capacity **$1.50**
THE PENCIL POINTS PRESS, Inc.
330 W. 42nd Street New York, N. Y.